Ross Soil and Water Conservation District Resources Inventory

United States Department of Agriculture

Soil Conservation Service

Economic Research Service

Ohio

For Information Contact:

Ross Soil and Water Conservation District

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INTRODUCTION

The National Resources Inventory (NRI) for Ross County, Ohio was completed in 1981. The Ross Soil and Water Conservation District (SWCD) in cooperation with the USDA, Soil Conservation Service (SCS) took part in the inventory. Information was collected on 240 sample units in the county to provide county reliable resources data.

This inventory provided natural resource data on (1) land use, (2) conservation treatment needs, (3) prime farmland, (4) potential cropland, (5) sheet and rill erosion, (6) flood-prone areas, (7) wetlands, and (8) small bodies of water.

The study identified erosion and land management problems in Ross County. These problems were addressed and priorities set in the District's long range program. Top priorities include: (1) working to prevent soil erosion and control pollution from sediment and stormwater runoff, (2) actively participating in land-use decisions in the county, and (3) expanding conservation education and information activities.

With this Resources Inventory, the Ross County Soil Survey, and the Ohio Capability Analysis Program (OCAP), the District is now able to focus on areas in the county with excessive erosion and assign priorities to them.

The purpose of this publication is to distribute the results of the Ross County Resources Inventory and to provide land users with a management guide for solving problems on the various soils in the county.

Our goal is to promote the wise use of the soil resource base in Ross County.

The information in this publication, like all information developed from a statistical study, has varying degrees of reliability or confidence levels. All values expressed here, representing over 10 percent of the county area, have a confidence level greater than 90 percent or they are at least 90 percent accurate. Smaller values, those representing less than 10 percent of the total county area, will be less than 90 percent accurate.

June 1984

RESOURCE ASSESSMENT OF ROSS COUNTY

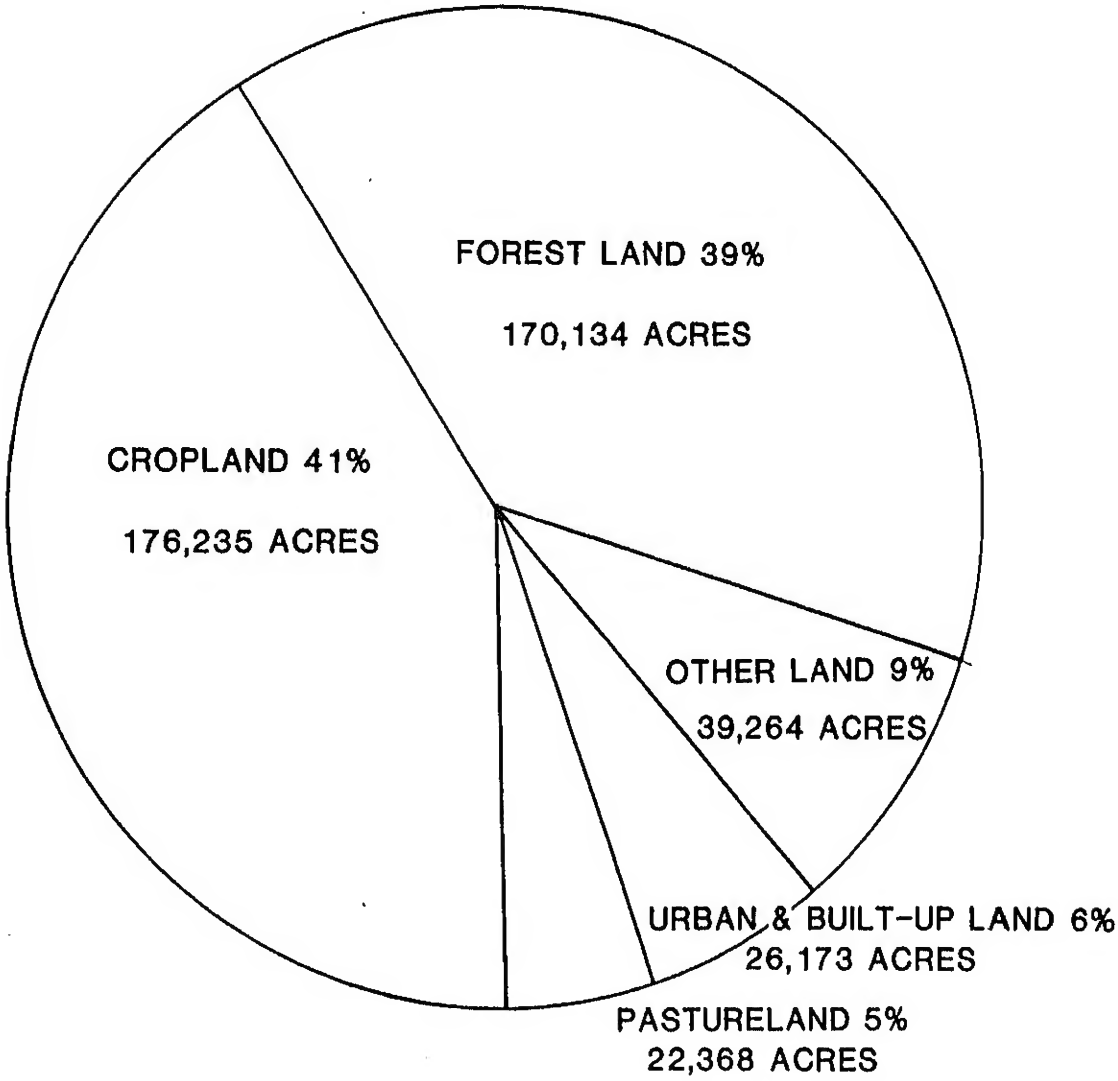
Ross County is an important agricultural county, with nearly 85 percent of the acreage used for agriculture. In 1982, there were 960 farms in the county. Cash grain crops including corn and soybeans were produced on approximately 138,300 acres and generated the most farm income.[1/] In the same year, there were 22,200 head of cattle, 1,400 milk cows, 39,900 hogs and pigs, and 1,800 stock sheep in the county.

Forest land area is an important part of the agricultural economy of Ross County and comprises 39% of the county, or 170,134 acres. This resource is used for quality hardwood lumber, pulp wood, cord wood and wildlife. It makes up an important part of the income in the agricultural community.

Fifteen percent of the land area of Ross County is urban and built-up land. A steady growth in area, is experienced in Chillicothe and the smaller communities in the county. However, at least 70 percent of the new urban built-up areas occur in rural areas. A large factor in this is the availability of county water.

1/ USDA, 1982. Ohio Agricultural Statistics. Ohio Crop Reporting Service. Unpublished data.

Figure 1.1 Ross County Land Use on Nonfederal Land



TOTAL NONFEDERAL ACREAGE IN ROSS COUNTY = 434,174 Acres

KEY POINT

- Eighty percent of Ross County consists of cropland and forest land.

Land Use by Capability Class

Soils can be classified in a number of ways. SCS uses a land capability classification system that groups soils on the basis of their ability to produce common cultivated crops and pasture plants without deterioration. Land capability classes and subclasses in Ross County are based on the soil survey.

Capability classes are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of agricultural use.

Class III soils have severe limitations that reduce the choice of agricultural use.

Class IV soils have very severe limitations that reduce the choice of plants, or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations. There are no Class V soils in Ross County.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production. There are no Class VIII soils in Ross County.

Each capability class, except class I, has subclasses to identify specific limitations. The letter "e" stands for erosion risk; "w" for wetness; and "s" for soils limited mainly because they are shallow, droughty, or stony.

Eighty-eight percent of the cropland areas in Ross County are in class I, II and III, with the majority being in class II. Poor drainage is a significant problem for agriculture and systematic subsurface (tile) drainage is being used to improve these soils. Sheet and rill erosion is a major hazard on sloping to very steep soils and is a potential problem on all land use.

Poor drainage and moderately slow or slow permeability, as well as soil instability (land slips) are the primary limitations on non-agricultural land uses including homesites, roads and on-site sewage disposal.

Table 1.1 Rural Nonfederal Land Use Acreage by Capability Class

CLASS	CROPLAND Acres	PASTURELAND Acres	FOREST LAND Acres	OTHER LAND Non Urban Acres	TOTAL
I	29,826	1.355	6,101	2,033	39,315
II	104,383	8,811	8,811	9,791	131,796
III	21,691	3,390	19,658	7,376	52,115
IV	7,456	2,712	14,234	5,098	29,500
VI	8,134	3,389	40,669	3,389	55,581
VII	4,745	2,711	80,661	2,034	90,151
NA	0	0	0	9,543	9,543
TOTAL	176,235	22,368	170,134	39,264	408,001

KEY POINTS:

- o Forty-three percent of the rural land is cropland and fifty-eight percent of this is class II land.
- o Forty-one percent of the rural land is forest land and forty-nine percent of this is class VII land.

Prime Farmland

Prime farmland is the best farmland. Over three-fourths of all cropland is prime farmland. These very productive soils make agriculture one of the largest industries in Ross County.

Prime farmland adjacent to urban areas is being converted to other uses at the rate of approximately 200 acres per year. Over 90 percent of the area involved in proposed new highway construction will be on prime farmland.

Table 1.2 Prime Farmland by Rural Nonfederal Land Use

LAND USE	TOTAL ACRES	PRIME FARMLAND Acres	PRIME FARMLAND Percent
Cropland	176,235	135,565	77
Pastureland	22,368	9,484	42
Forest land	170,134	8,134	5
Other	39,264	9,790	25
TOTAL	408,001	162,973	40

KEY POINTS:

- o Seventy-seven percent of all cropland is prime farmland.
- o Forty percent of all rural land is prime farmland.

Soil Erosion

Soil erosion is a continuously occurring natural process that loosens and transports soil particles. Erosion occurs slowly on undisturbed woodland and areas with adequate permanent vegetative cover. Soil losses are quite high on sloping cropland that is continuously cultivated and left unprotected during several months every year.

Annually 1,624,864 tons of top soil are eroded from agricultural land in Ross County. About 78 percent of this erosion, or 1,268,428 tons, occurs on cropland.

Table 1.3 Nonfederal Cropland Acres and Annual Erosion by Capability Class and Subclass

CLASS AND SUBCLASS	ACRES	TONS	TONS/ACRE
I	29,826	83,507	2.80
IIe	44,057	342,083	7.76
IIs	7,457	13,116	1.76
IIw	52,869	133,507	2.53
IIIe	21,013	298,434	14.20
IIIw	678	6,794	10.02
IVe	7,456	92,296	12.38
VIe	8,134	108,427	13.33
VIIe	4,745	190,264	40.10
TOTAL	176,235	1,268,428	7.20

KEY POINTS:

- o The highest erosion rates are on subclass "e" soils.
- o Seventy-nine percent of the cropland erosion occurs on forty-six percent of the cropland acres.

Soil can tolerate small amounts of erosion and remain productive for agriculture indefinitely. When erosion is above this tolerable limit, the soil resource base cannot be maintained and the future ability of the soil to produce crops is threatened. This tolerable limit ("T" factor) ranges from three to five tons per acre per year for the soils in Ross County.

There are 67,780 acres of cropland in the county with erosion rates exceeding the "T" factor. This represents a serious threat to the productive capacity of the soil resource base. Most of the cropland acres eroding at rates higher than "T" are in capability classes IIe, IIw, IIIe, and IVe.

Table 1.4 Soil Loss Over "T" on Ross County Cropland by Capability Class on Nonfederal Land

CAPABILITY CLASS	ACRES OVER "T"	PERCENT OVER "T"
I	4,066	14
IIe	25,078	57
IIw	12,200	23
IIIe	12,201	58
IIIw	678	100
IVe	3,389	45
VIe	1,355	17
VIIe	4,067	86
TOTAL	63,034	36

KEY POINTS:

- o Thirty-six percent of the total cropland or 63,034 acres are eroding at rates in excess of "T".
- o Fifty-four percent or 46,090 acres of all subclass "e" soils on cropland are eroding at rates greater than "T".

Conservation Treatment

Over one-half of the farmland in Ross County needs some type of conservation treatment. Approximately thirty percent of the cropland needs drainage improvements, and 45,000 acres need erosion control practices to stabilize the soil.

Pastureland needs conservation treatment in the form of rotational grazing, lime, fertilizer and reseeding. The practice of farming steepland in classes IV through VII without conservation measures accounts for a large portion of tons of soil loss. However, a very large amount of erosion is occurring on relatively flat cropland on long slopes farmed under intensive crop rotations.

Conservation treatment is needed on over 100,000 acres of forest land in Ross County. Timber stand improvement and erosion control on loggin roads are the major conservation treatment needs. Clear cutting of timber stands has become an acceptable method of harvest and is not detrimental to the soil, provided logging roads are located and designed properly and are stabilized by seeding.

Table 1.5 Conservation Treatment Needs on Nonfederal Land

LAND USE	TOTAL ACRES	TOTAL ACRES NEEDING TREATMENT	% TOTAL ACRES NEEDING TREATMENT
Cropland	176,235	101,675	58
Pastureland	22,368	6,099	27
Forest land	170,134	111,837	66
Other land	39,264	7,808	20
TOTAL	408,001	227,419	56

SUMMARY

The largest single land use in Ross County is cropland, although forest land is a very close second. These two land uses occur on 85 percent of all rural land. Each land use is situated on quite divergent areas of the landscape. The cropland is mostly on the flat to gently rolling glacial till plains, moraines, and river bottoms; while 80 percent of the forest land is found on steep slopes, both in the glaciated and unglaciated areas of the county.

Thirty-six percent of the cropland is eroding at rates over "T" while 12 percent of the forest land is over "T", even though it is on steeper, more erodable soils.

Much of the erosion on forest lands can be reduced by proper management of harvested areas. Correct installation of logging roads, with seeding and water control measures installed at completion of the logging operation, can reduce rill and gully erosion dramatically.

Cropland erosion can be reduced to tolerable levels through proper management, conservation measures and fertility treatments. Reduced tillage, no-tillage, and less intense rotations can lower erosion rates to near the acceptable levels. Almost one-half (tons) of the cropland erosion occurs on class IV, VI, and VII land and may require a change to less intense land use.

Prime farmland is being converted to other land uses such as housing, highways, and industry as a result of urban expansion.

TECHNICAL APPENDIX

Soil Management Alternatives and Comparative Net Return Tables

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Soil Management Alternatives and Comparative Net Return Tables

This Technical Appendix was developed as a management tool to assist the farm operator and the professional soil conservationist in determining the best resource management system for any given crop field. By using this material, the operator and soil conservationist can determine ways to minimize soil loss and the net return changes that can be expected. Since this information is based on sample data and averages for existing conditions, it may not fit all situations exactly, but it can be of great value in making comparative analysis of alternative systems. While there is no replacement for good management and sound judgment, any analytical data available to the decisionmaker is a valuable tool. Table 2.1 lists all of the major soils in the county with erosion problems. It displays the map symbol, soil series name, surface texture, slope, capability class and subclass, and the acreage. The total acres of the soils in the county are also shown.

Table 2.1 Ross County Soils with Erosion Problems

SYMBOL	SERIES NAME	SURFACE TEXTURE	SLOPE %	CAPABILITY CLASS	ACRES
AdC2	Alexandria	Silt loam	6-12	IIIe	271
AdD2	Alexandria	Silt loam	12-18	IVe	490
AvB	Avonburg	Silt loam	2-6	IIIw	472
CaB	Cana	Silt loam	2-6	IIe	1,125*
CaC2	Cana	Silt loam	6-12	IIIe	5,519*
CaD2	Cana	Silt loam	12-18	IVe	5,634*
ChB	Cardington	Silt loam	2-6	IIe	115
ChC2	Cardington	Silt loam	6-12	IIe	362
CoB	Celina	Silt loam	2-6	IIe	18,156
CvA	Crosby	Silt loam	0-2	IIw	17,585
CvB	Crosby	Silt loam	2-6	IIe	5,361
FnB	Fox	Silt loam	2-6	IIe	3,645*
FnC2	Fox	Silt loam	6-12	IIIe	1,362
FgB	Fox	Gravelly loam	2-6	IIe	1,498
FlB	Fox	Loam	2-6	IIe	2,606
FmB	Fox	Sandy loam	2-6	IIe	1,494
HkC2	Hickory	Silt loam	6-12	IIIe	684
HkD2	Hickory	Silt loam	12-18	IVe	246
KeB	Kendallville	Silt loam	2-6	IIe	3,146
KeC2	Kendallville	Silt loam	6-12	IIIe	2,093
LaD2	Latham	Silt loam	12-18	VIe	2,910
LoC	Loudonville	Silt loam	6-12	IIIe	452
LoD2	Loudonville	Silt loam	12-18	IVe	368
MgA	McGary-Fitchville	Silt loams	0-2	IIIw	295
MlB	Miami	Silt loam	2-6	IIe	21,134*
MlC	Miami	Silt loam	6-12	IIIe	18,379*
MlD	Miami	Silt loam	12-18	IVe	5,178*
NeC2	Negley	Loam	6-12	IIIe	161
NfD2	Negley	Loam	12-18	IVe	695
PaC2	Parke	Silt loam	6-12	IIIe	1,451
RaB	Rainsboro	Silt loam	2-6	IIe	2,501
RaC2	Rainsboro	Silt loam	6-12	IIIe	1,185
RpB	Rossmoyne	Silt loam	2-6	IIe	7,702*
RpC2	Rossmoyne	Silt loam	6-12	IIIe	4,487
Wl	Warsaw	Loam	0-2	IIs	721
TOTAL					139,483

*Acreage contains both slightly eroded and moderately eroded soils.

The following tables were prepared using data from the NRI, the Universal Soil Loss Equation (USLE), Crop Budgets, and Ohio crop yield data. A detailed study was compiled for each of the 35 listed soil series. Soil losses for different rotations and tillage systems were compared with the net return a farmer could expect from these management systems. These figures are based on average management levels and do not consider land costs. The comparisons were made for 10 crop rotations using different tillage systems.

These tables can be used by following the steps listed below:

1. Determine the soil type with the aid of the Ross Soil Survey. Locate this map unit with the appropriate column in one of the 35 tables.

2. The USLE uses a series of factors to predict soil loss. These factors are located near the top of the tables and are:

   R = Rainfall factor

   K = Soil erodibility

   L = Average length of slope for the listed soil

   S = Average percent slope for the listed soil

   T = Tolerable soil loss

3. Locate the crop rotation and tillage methods used in the first two columns:

   C = Corn

   SB = Soybeans

   M = Hay (alfalfa)

   W = Wheat

   X = Cover Crop

4. The predicted soil loss is located in the third column. If the soil loss is above the tolerable level, the value will be located in the over "T" section. If the soil loss is within the tolerable limits, the value will be in the under "T" section. The soil losses were computed with the average map unit factors displayed at the top of the table.

5. The fourth column gives the expected average annual net return per acre, excluding land cost, that a farmer would receive with average management levels and yield data.

6. The fifth column shows the predicted amount of soil saved per acre in tons per acre per year compared to the management alternative of corn, soybeans fall plowed.

7. The sixth column is the predicted change in net return compared to the management alternative of corn, soybeans.

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = ALEXANDRIA SILT LOAM SLOPE = C 6 to 12 Soil Symbol AdC2
R = 150 K = .37 L = 186 S = 8.0 T = 5.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-C	CHISEL DISC	9.00	72.25	23.26	44.65
C-SB	NO TILL	6.00	71.79	26.26	44.19
C-SB-SB	NO TILL	10.51	63.17	21.76	35.57
C-C-SB	CHISEL DISC	12.76	61.02	19.51	33.42
C-SB-C-SB-WX	NO TILL	5.25	57.60	27.01	30.00
C-SB	CHISEL DISC	16.51	55.41	15.76	27.81
C-C-C-M-M-M	CHISEL DISC	5.25	54.46	27.01	26.86
C-C-C	FALL PLOW	30.01	50.15	2.25	22.55
C-C-C	SPRING PLOW	27.01	50.15	5.25	22.55
C-SB-SB	CHISEL DISC	19.51	49.80	12.76	22.20
SB-SB-SB	NO TILL	15.01	45.93	17.26	18.33
C-C-SB-W-M-M	CHISEL DISC	8.25	45.19	24.01	17.59
C-SB-C-SB-WX	CHISEL DISC	10.51	44.50	21.76	16.90
C-C-C-M-M-M	FALL PLOW	11.26	43.41	21.01	15.81
C-C-C-M-M-M	SPRING PLOW	9.75	43.41	22.51	15.81
C-C-M-M-M	FALL PLOW	7.50	42.06	24.76	14.46
C-C-M-M-M	SPRING PLOW	6.00	42.06	26.26	14.46
C-C-SB	SPRING PLOW	27.76	41.27	4.50	13.67
SB-SB-SB	CHISEL DISC	25.51	38.57	6.75	10.97
C-SB-WX	CHISEL DISC	12.76	37.22	19.51	9.62
C-SB	SPRING PLOW	28.51	36.83	3.75	9.23
C-C-SB-W-M-M	SPRING PLOW	10.51	35.32	21.76	7.72
C-C-SB	FALL PLOW	31.52	35.12	.75	7.52
C-SB-SB	SPRING PLOW	29.26	32.39	3.00	4.79
C-C-SB-W-M-M	FALL PLOW	12.76	32.24	19.51	4.64
C-SB-C-SB-WX	SPRING PLOW	22.51	29.63	9.75	2.03
*C-SB	FALL PLOW	32.27	27.60	0.00	0.00
C-SB-WX	SPRING PLOW	17.26	24.84	-2.76	- .18
SB-SB-SB	SPRING PLOW	30.76	23.51	1.50	- 4.09
C-SB-C-SB-WX	FALL PLOW	25.51	22.25	6.75	- 5.35
C-SB-SB	FALL PLOW	33.02	20.08	- .75	- 7.52
C-SB-WX	FALL PLOW	20.26	18.68	12.01	- 8.92
SB-SB-SB	FALL PLOW	33.77	5.05	-1.50	-22.55
UNDER T					
C-C-C	NO TILL	2.25	97.65	30.01	70.05
C-C-SB	NO TILL	4.50	80.41	27.76	52.81
C-C-C-M-M-M	NO TILL	1.95	67.16	30.31	39.56
C-C-M-M-M	NO TILL	1.73	61.06	30.54	33.46
C-C-SB-W-M-M	NO TILL	2.25	54.89	30.01	27.29
C-C-M-M-M	CHISEL DISC	4.50	50.90	27.76	23.30
C-SB-WX	NO TILL	3.00	48.14	29.26	20.54

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = ALEXANDRIA SILT LOAM SLOPE = D 12 to 18 Soil Symbol AdD2
R = 150 K = .37 L = 147 S = 15.0 T = 5.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-C	NO TILL	5.17	79.08	68.89	54.41
C-C-SB	NO TILL	10.33	68.03	63.72	43.36
C-SB	NO TILL	13.78	62.51	60.28	37.84
C-C-C	CHISEL DISC	20.67	59.06	53.39	34.39
C-SB-SB	NO TILL	24.11	56.98	49.94	32.31
C-C-SB	CHISEL DISC	29.28	52.23	44.78	27.56
C-SB	CHISEL DISC	37.89	48.82	36.17	24.15
C-SB-C-SB-WX	NO TILL	12.06	48.40	62.00	23.73
SB-SB-SB	NO TILL	34.44	45.93	39.61	21.26
C-SB-SB	CHISEL DISC	44.78	45.40	29.28	20.73
C-C-SB-W-M-M	NO TILL	5.17	45.33	68.89	20.66
C-C-C-M-M-M	CHISEL DISC	12.06	45.03	62.00	20.36
C-C-C	FALL PLOW	68.89	44.29	5.17	19.62
C-C-C	SPRING PLOW	62.00	44.29	12.06	19.62
C-C-M-M-M	CHISEL DISC	10.33	42.22	63.72	17.55
C-SB-WX	NO TILL	6.89	39.00	67.16	14.33
SB-SB-SB	CHISEL DISC	58.55	38.57	15.50	13.90
C-C-C-M-M-M	FALL PLOW	25.83	37.64	48.22	12.97
C-C-C-M-M-M	SPRING PLOW	22.39	37.64	51.66	12.97
C-SB-C-SB-WX	CHISEL DISC	24.11	37.45	49.94	12.78
C-C-SB-W-M-M	CHISEL DISC	18.94	37.43	55.11	12.76
C-C-SB	SPRING PLOW	63.72	37.36	10.33	12.69
C-C-M-M-M	FALL PLOW	17.22	36.31	56.83	11.64
C-C-M-M-M	SPRING PLOW	13.78	36.31	60.28	11.64
C-SB	SPRING PLOW	65.44	33.90	8.61	9.23
C-C-SB	FALL PLOW	72.33	31.21	1.72	6.54
C-SB-SB	SPRING PLOW	67.16	30.44	6.89	5.77
C-C-SB-W-M-M	SPRING PLOW	24.11	30.00	49.94	5.33
C-SB-WX	CHISEL DISC	29.28	29.87	44.78	5.20
C-C-SB-W-M-M	FALL PLOW	29.28	26.92	44.78	2.25
C-SB-C-SB-WX	SPRING PLOW	51.66	25.52	22.39	.85
*C-SB	FALL PLOW	74.05	24.67	0.00	0.00
SB-SB-SB	SPRING PLOW	70.61	23.51	3.44	- 1.16
C-SB-WX	SPRING PLOW	39.61	19.93	34.44	- 4.74
C-SB-C-SB-WX	FALL PLOW	58.55	18.13	15.50	- 6.54
C-SB-SB	FALL PLOW	75.78	18.13	-1.72	- 6.54
C-SB-WX	FALL PLOW	46.50	13.78	27.55	-10.89
SB-SB-SB	FALL PLOW	77.50	5.05	-3.44	-19.62
UNDER T					
C-C-C-M-M-M	NO TILL	4.48	55.04	69.58	30.37
C-C-M-M-M	NO TILL	3.96	50.23	70.09	25.56

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = AVONBURG SILT LOAM SLOPE = B 2 TO 6 Soil Symbol AvB
R = 150 K = .43 L = 153 S = 3.2 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-C	FALL PLOW	9.65	96.57	.72	16.27
C-C-C	SPRING PLOW	8.68	96.57	1.69	16.27
C-C-SB	CHISEL DISC	4.10	94.64	6.27	14.34
C-SB	CHISEL DISC	5.31	89.21	5.07	8.92
C-C-SB	FALL PLOW	10.13	85.72	.24	5.42
C-C-SB	SPRING PLOW	8.93	85.72	1.45	5.42
C-SB-SB	CHISEL DISC	6.27	83.79	4.10	3.49
C-SB	FALL PLOW	10.37	80.30	0.00	0.00
C-SB	SPRING PLOW	9.17	80.30	1.21	0.00
C-SB-SB	FALL PLOW	10.61	74.88	-.24	- 5.42
C-SB-SB	SPRING PLOW	9.41	74.88	.96	- 5.42
SB-SB-SB	CHISEL DISC	8.20	72.95	2.17	- 7.35
C-SB-C-SB-WX	FALL PLOW	8.20	65.74	2.17	-14.56
C-SB-C-SB-WX	SPRING PLOW	7.24	65.74	3.14	-14.56
SB-SB-SB	FALL PLOW	10.86	64.03	-.48	-16.27
SB-SB-SB	SPRING PLOW	9.89	64.03	.48	-16.27
C-SB-WX	CHISEL DISC	4.10	61.97	6.27	-18.33
C-C-SB-W-M-M	FALL PLOW	4.10	58.65	6.27	-21.65
C-SB-WX	FALL PLOW	6.51	56.03	3.86	-24.27
C-SB-WX	SPRING PLOW	5.55	56.03	4.82	-24.27
UNDER T					
C-C-C	CHISEL DISC	2.89	105.48	7.48	25.18
C-SB-C-SB-WX	CHISEL DISC	3.38	72.87	7.00	- 7.43
C-C-C-M-M-M	CHISEL DISC	1.69	71.07	8.68	- 9.23
C-C-C-M-M-M	FALL PLOW	3.62	66.62	6.75	-13.69
C-C-C-M-M-M	SPRING PLOW	3.14	66.62	7.24	-13.69
C-C-M-M-M	CHISEL DISC	1.45	64.19	8.93	-16.11
C-C-SB-W-M-M	CHISEL DISC	2.65	63.11	7.72	-17.19
C-C-M-M-M	FALL PLOW	2.41	60.62	7.96	-19.68
C-C-M-M-M	SPRING PLOW	1.93	60.62	8.44	-19.68
-C-SB-W-M-M	SPRING PLOW	3.38	58.65	7.00	-21.65

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = CANA SILT LOAM SLOPE = B 2 to 6 Soil Symbol CaB
R = 150 K = .37 L = 200 S = 4.0 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-SB-SB	NO TILL	4.10	97.19	8.50	36.71
SB-SB-SB	NO TILL	5.86	96.22	6.74	35.74
SB-SB-SB	CHISEL DISC	9.96	88.86	2.64	28.38
C-SB-SB	CHISEL DISC	7.62	83.81	4.98	23.33
C-SB	CHISEL DISC	6.45	81.29	6.15	20.81
C-C-SB	CHISEL DISC	4.98	78.77	7.62	18.29
SB-SB-SB	FALL PLOW	13.19	69.34	-.59	8.86
SB-SB-SB	SPRING PLOW	12.01	69.34	.59	8.86
C-SB-C-SB-WX	CHISEL DISC	4.10	66.09	8.50	5.61
C-SB-SB	FALL PLOW	12.89	63.43	-.29	2.95
C-SB-SB	SPRING PLOW	11.43	63.43	1.17	2.95
C-SB	FALL PLOW	12.60	60.48	0.00	0.00
C-SB	SPRING PLOW	11.14	60.48	1.47	0.00
C-C-SB	FALL PLOW	12.31	57.53	.29	- 2.95
C-C-SB	SPRING PLOW	10.84	57.53	1.76	- 2.95
C-SB-WX	CHISEL DISC	4.98	55.95	7.62	- 4.53
C-C-C	FALL PLOW	11.72	51.62	.88	- 8.86
C-C-C	SPRING PLOW	10.55	51.62	2.05	- 8.86
C-C-C-M-M-M	FALL PLOW	4.40	49.81	8.21	-10.68
C-SB-C-SB-WX	FALL PLOW	9.96	49.44	2.64	-11.04
C-SB-C-SB-WX	SPRING PLOW	8.79	49.44	3.81	-11.04
C-C-SB-W-M-M	FALL PLOW	4.98	47.96	7.62	-12.52
C-C-SB-W-M-M	SPRING PLOW	4.10	47.96	8.50	-12.52
C-SB-WX	FALL PLOW	7.91	42.08	4.69	-18.40
C-SB-WX	SPRING PLOW	6.74	42.08	5.86	-18.40
UNDER T					
C-C-C	NO TILL	.88	99.12	11.72	38.64
C-C-SB	NO TILL	1.76	98.15	10.84	37.67
C-SB	NO TILL	2.34	97.67	10.26	37.19
C-SB-C-SB-WX	NO TILL	2.05	79.19	10.55	18.71
C-C-C	CHISEL DISC	3.52	73.72	9.08	13.24
C-C-C-M-M-M	NO TILL	.76	73.55	11.84	13.08
C-C-M-M-M	NO TILL	.67	68.44	11.93	7.96
C-C-SB-W-M-M	NO TILL	.88	68.27	11.72	7.79
C-SB-WX	NO TILL	1.17	66.87	11.43	6.39
C-C-C-M-M-M	CHISEL DISC	2.05	60.86	10.55	.38
C-C-SB-W-M-M	CHISEL DISC	3.22	58.58	9.38	- 1.90
C-C-M-M-M	CHISEL DISC	1.76	58.28	10.84	- 2.20
C-C-C-M-M-M	SPRING PLOW	3.81	49.81	8.79	-10.68
C-C-M-M-M	FALL PLOW	2.93	49.44	9.67	-11.04
C-C-M-M-M	SPRING PLOW	2.34	49.44	10.26	-11.04

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = CANA SILT LOAM SLOPE = C 6 TO 12 Soil Symbol CaC2
R = 150 K = .36 L = 250 S = 7.0 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-SB	NO TILL	4.22	92.47	26.03	36.85
C-SB	NO TILL	5.63	92.08	24.63	36.46
C-SB-SB	NO TILL	9.85	91.69	20.40	36.07
SB-SB-SB	NO TILL	14.07	90.91	16.18	35.29
C-C-M-M-M	CHISEL DISC	4.22	87.12	26.03	31.49
C-C-C-M-M-M	CHISEL DISC	4.93	84.15	25.33	28.53
SB-SB-SB	CHISEL DISC	23.92	83.56	6.33	27.94
C-SB-SB	CHISEL DISC	18.29	78.81	11.96	23.19
C-C-M-M-M	FALL PLOW	7.04	78.28	23.22	22.65
C-C-M-M-M	SPRING PLOW	5.63	78.28	24.63	22.65
C-SB	CHISEL DISC	15.48	76.44	14.78	20.82
C-SB-C-SB-WX	NO TILL	4.93	74.28	25.33	18.65
C-C-SB	CHISEL DISC	11.96	74.07	18.29	18.44
C-C-C-M-M-M	FALL PLOW	10.55	73.10	19.70	17.48
C-C-C-M-M-M	SPRING PLOW	9.15	73.10	21.11	17.48
C-C-SB-W-M-M	CHISEL DISC	7.74	72.86	22.52	17.23
C-C-C	CHISEL DISC	8.44	69.32	21.81	13.70
SB-SB-SB	FALL PLOW	31.66	64.03	- 1.41	8.40
SB-SB-SB	SPRING PLOW	28.85	64.03	1.41	8.40
C-C-SB-W-M-M	FALL PLOW	11.96	62.24	18.29	6.61
C-C-SB-W-M-M	SPRING PLOW	9.85	62.24	20.40	6.61
C-SB-C-SB-WX	CHISEL DISC	9.85	61.76	20.40	6.14
C-SB-SB	FALL PLOW	30.96	58.43	- .70	2.80
C-SB-SB	SPRING PLOW	27.44	58.43	2.81	2.80
C-SB	FALL PLOW	30.26	55.63	0.00	0.00
C-SB	SPRING PLOW	26.74	55.63	3.52	0.00
C-C-SB	FALL PLOW	29.55	52.82	.70	- 2.80
C-C-SB	SPRING PLOW	26.03	52.82	4.22	- 2.80
C-SB-WX	CHISEL DISC	11.96	51.98	18.29	- 3.65
C-C-C	FALL PLOW	28.14	47.22	2.11	- 8.40
C-C-C	SPRING PLOW	25.33	47.22	4.93	- 8.40
C-SB-C-SB-WX	FALL PLOW	23.92	45.11	6.33	-10.51
C-SB-C-SB-WX	SPRING PLOW	21.11	45.11	9.15	-10.51
C-SB-WX	FALL PLOW	19.00	38.10	11.26	-17.52
C-SB-WX	SPRING PLOW	16.18	38.10	14.07	-17.52
UNDER T					
C-C-M-M-M	NO TILL	1.62	96.69	28.64	41.06
C-C-C-M-M-M	NO TILL	1.83	96.12	28.43	40.49
C-C-C	NO TILL	2.11	93.25	28.14	37.63
C-C-SB-W-M-M	NO TILL	2.11	82.06	28.14	26.43
C-SB-WX	NO TILL	2.81	62.41	27.44	6.78

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = CANA SILT LOAM SLOPE = D 12 to 18 Soil Symbol CaD2
R = 150 K = .37 L = 200 S = 15.0 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-C	NO TILL	6.03	87.87	80.36	38.28
C-C-SB	NO TILL	12.05	85.35	74.34	35.76
C-SB	NO TILL	16.07	84.08	70.32	34.50
C-SB-SB	NO TILL	28.13	82.82	58.26	33.23
SB-SB-SB	NO TILL	40.18	80.30	46.21	30.71
SB-SB-SB	CHISEL DISC	68.31	72.95	18.08	23.36
C-SB-SB	CHISEL DISC	52.24	71.25	34.15	21.66
C-SB	CHISEL DISC	44.20	70.40	42.19	20.82
C-C-SB	CHISEL DISC	34.15	69.56	52.24	19.97
C-C-C	CHISEL DISC	24.11	67.86	62.28	18.27
C-SB-C-SB-WX	NO TILL	14.06	67.44	72.33	17.85
C-C-C-M-M-M	NO TILL	5.22	62.27	81.17	12.68
C-C-SB-W-M-M	NO TILL	6.03	57.35	80.36	7.76
C-C-M-M-M	NO TILL	4.62	57.14	81.77	7.55
C-SB-C-SB-WX	CHISEL DISC	28.13	56.49	58.26	6.90
C-SB-WX	NO TILL	8.04	56.34	78.35	6.75
SB-SB-SB	FALL PLOW	90.41	53.42	-4.02	3.83
SB-SB-SB	SPRING PLOW	82.37	53.42	4.02	3.83
C-C-C-M-M-M	CHISEL DISC	14.06	52.26	72.33	2.67
C-SB-SB	FALL PLOW	88.40	50.87	-2.01	1.28
C-SB-SB	SPRING PLOW	78.35	50.87	8.04	1.28
C-SB	FALL PLOW	86.39	49.59	0.00	0.00
C-SB	SPRING PLOW	76.35	49.59	10.05	0.00
C-C-SB-W-M-M	CHISEL DISC	22.10	49.46	64.29	- .13
C-C-M-M-M	CHISEL DISC	12.05	49.14	74.34	- .45
C-C-SB	FALL PLOW	84.38	48.31	2.01	- 1.28
C-C-SB	SPRING PLOW	74.34	48.31	12.05	- 1.28
C-SB-WX	CHISEL DISC	34.15	47.22	52.24	- 2.37
C-C-C	FALL PLOW	80.36	45.76	6.03	- 3.83
C-C-C	SPRING PLOW	72.33	45.76	14.06	- 3.83
C-C-C-M-M-M	FALL PLOW	30.14	41.21	56.25	- 8.38
C-C-C-M-M-M	SPRING PLOW	26.12	41.21	60.27	- 8.38
C-C-M-M-M	FALL PLOW	20.09	40.30	66.30	- 9.29
C-C-M-M-M	SPRING PLOW	16.07	40.30	70.32	- 9.29
C-SB-C-SB-WX	FALL PLOW	68.31	39.84	18.08	- 9.75
C-SB-C-SB-WX	SPRING PLOW	60.27	39.84	26.12	- 9.75
C-C-SB-W-M-M	FALL PLOW	34.15	38.84	52.24	-10.75
C-C-SB-W-M-M	SPRING PLOW	28.13	38.84	58.26	-10.75
C-SB-WX	FALL PLOW	54.25	33.34	32.15	-16.25
C-SB-WX	SPRING PLOW	46.21	33.34	40.18	-16.25
UNDER T					

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = CARDINGTON SILT LOAM SLOPE = B 2 to 6 Soil Symbol ChB
R = 150 K = .37 L = 214 S = 4.3 T = 5.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-SB	CHISEL DISC	5.55	87.98	8.48	27.36
C-SB	CHISEL DISC	7.18	82.90	6.85	22.28
C-SB-SB	CHISEL DISC	8.48	77.81	5.55	17.19
SB-SB-SB	NO TILL	6.53	75.00	7.51	14.38
C-C-C	FALL PLOW	13.05	73.12	.98	12.50
C-C-C	SPRING PLOW	11.75	73.12	2.28	12.50
SB-SB-SB	CHISEL DISC	11.10	67.64	2.94	7.02
C-C-SB	FALL PLOW	13.71	64.79	.33	4.17
C-C-SB	SPRING PLOW	12.07	64.79	1.96	4.17
*C-SB	FALL PLOW	14.03	60.62	0.00	0.00
C-SB	SPRING PLOW	12.40	60.62	1.63	0.00
C-SB-WX	CHISEL DISC	5.55	59.97	8.48	- .65
C-C-SB-W-M-M	FALL PLOW	5.55	58.73	8.48	- 1.89
C-SB-SB	FALL PLOW	14.36	56.45	-.33	- 4.17
C-SB-SB	SPRING PLOW	12.73	56.45	1.31	- 4.17
C-SB-C-SB-WX	FALL PLOW	11.10	51.32	2.94	- 9.30
C-SB-C-SB-WX	SPRING PLOW	9.79	51.32	4.24	- 9.30
SB-SB-SB	FALL PLOW	14.69	48.12	-.65	-12.50
SB-SB-SB	SPRING PLOW	13.38	48.12	.65	-12.50
C-SB-WX	FALL PLOW	8.81	45.12	5.22	-15.50
C-SB-WX	SPRING PLOW	7.51	45.12	6.53	-15.50
UNDER T					
C-C-C	NO TILL	.98	126.96	13.05	66.34
C-C-SB	NO TILL	1.96	109.64	12.07	49.02
C-SB	NO TILL	2.61	100.98	11.42	40.36
C-C-C	CHISEL DISC	3.92	98.15	10.12	37.53
-C-C-M-M-M	NO TILL	.85	95.97	13.18	35.36
-SB-SB	NO TILL	4.57	92.32	9.46	31.70
-C-M-M-M	NO TILL	.75	89.78	13.28	29.16
-SB-C-SB-WX	NO TILL	2.28	83.61	11.75	22.99
C-C-C-M-M-M	CHISEL DISC	2.28	81.57	11.75	20.95
C-C-SB-W-M-M	NO TILL	.98	81.16	13.05	20.54
C-C-M-M-M	CHISEL DISC	1.96	78.25	12.07	17.63
C-SB-WX	NO TILL	1.31	72.03	12.73	11.41
C-C-SB-W-M-M	CHISEL DISC	3.59	70.33	10.44	9.71
C-SB-C-SB-WX	CHISEL DISC	4.57	69.14	9.46	8.52
C-C-C-M-M-M	FALL PLOW	4.90	69.05	9.14	8.44
C-C-C-M-M-M	SPRING PLOW	4.24	69.05	9.79	8.44
C-C-M-M-M	FALL PLOW	3.26	68.24	10.77	7.62
C-C-M-M-M	SPRING PLOW	2.61	68.24	11.42	7.62
C-C-SB-W-M-M	SPRING PLOW	4.57	58.73	9.46	- 1.89

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = CARDINGTON SILT LOAM SLOPE = C 6 - 12 Soil Symbol ChC2
R = 150 K = .37 L = 142 S = 10.8 T = 5.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-SB	NO TILL	6.09	82.36	37.58	41.14
C-C-C	CHISEL DISC	12.19	80.57	31.49	39.35
C-SB	NO TILL	8.13	73.26	35.55	32.03
C-C-SB	CHISEL DISC	17.27	66.57	26.41	25.35
C-C-C-M-M-M	CHISEL DISC	7.11	64.28	36.56	23.06
C-SB-SB	NO TILL	14.22	47.83	29.45	22.92
C-C-M-M-M	CHISEL DISC	6.09	61.02	37.58	19.80
C-SB	CHISEL DISC	22.34	59.57	21.33	18.35
C-C-C	FALL PLOW	40.63	58.94	33.05	17.72
C-C-C	SPRING PLOW	36.56	58.94	7.11	17.72
C-SB-C-SB-WX	NO TILL	7.11	58.77	36.56	17.55
C-C-C-M-M-M	FALL PLOW	15.23	53.46	28.44	12.24
C-C-C-M-M-M	SPRING PLOW	13.20	53.46	30.47	12.24
C-SB-SB	CHISEL DISC	26.41	52.57	17.27	11.35
C-C-M-M-M	FALL PLOW	10.16	52.37	33.52	11.15
C-C-M-M-M	SPRING PLOW	8.13	52.37	35.55	11.15
C-C-SB-W-M-M	CHISEL DISC	11.17	51.74	32.50	10.52
C-SB-C-SB-WX	CHISEL DISC	14.22	47.83	29.45	6.60
C-C-SB	FALL PLOW	42.66	47.13	1.02	5.90
C-C-SB	SPRING PLOW	37.58	47.13	6.09	5.90
SB-SB-SB	NO TILL	20.31	45.93	23.36	4.71
C-C-SB-W-M-M	FALL PLOW	17.27	42.02	26.41	.80
C-C-SB-W-M-M	SPRING PLOW	14.22	42.02	29.45	.80
C-SB	FALL PLOW	43.67	41.23	0.00	0.00
C-SB	SPRING PLOW	38.59	41.23	5.08	0.00
C-SB-WX	CHISEL DISC	17.27	40.00	26.41	- 1.23
SB-SB-SB	CHISEL DISC	34.53	38.57	9.14	- 2.65
C-SB-SB	PLOW	44.69	35.32	-1.02	- 5.90
C-SB-SB	SPRING PLOW	39.61	35.32	4.06	- 5.90
C-SB-C-SB-WX	FALL PLOW	34.53	33.15	9.14	- 8.07
C-SB-C-SB-WX	SPRING PLOW	30.47	33.15	13.20	- 8.07
C-SB-WX	FALL PLOW	27.42	27.77	16.25	-13.46
C-SB-WX	SPRING PLOW	23.36	27.77	20.31	-13.46
SB-SB-SB	FALL PLOW	45.70	23.51	-2.03	-17.72
SB-SB-SB	SPRING PLOW	41.64	23.51	2.03	-17.72
UNDER T					
C-C-C	NO TILL	3.05	100.58	40.63	59.36
C-C-C-M-M-M	NO TILL	2.64	74.29	41.03	33.06
C-C-M-M-M	NO TILL	2.34	69.03	41.34	27.80
C-C-SB-W-M-M	NO TILL	3.05	59.64	40.63	18.42
C-SB-WX	NO TILL	4.06	49.12	39.61	7.90

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = CELINA SILT LOAM SLOPE = B 2 to 6 Soil Symbol CoB
R = 150 K = .37 L = 164 S = 2.6 T = 5.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
SB-SB-SB	CHISEL DISC	5.49	99.47	1.45	22.94
SB-SB-SB	FALL PLOW	7.27	79.95	-.32	3.42
SB-SB-SB	SPRING PLOW	6.62	79.95	.32	3.42
C-SB-SB	FALL PLOW	7.11	77.67	-.16	1.14
C-SB-SB	SPRING PLOW	6.30	77.67	.65	1.14
*C-SB	FALL PLOW	6.94	76.53	0.00	0.00
C-SB	SPRING PLOW	6.14	76.53	.81	0.00
C-C-SB	FALL PLOW	6.78	75.40	.16	- 1.14
C-C-SB	SPRING PLOW	5.98	75.40	.97	- 1.14
C-C-C	FALL PLOW	6.46	73.12	.48	- 3.42
C-C-C	SPRING PLOW	5.81	73.12	1.13	- 3.42
C-SB-C-SB-WX	FALL PLOW	5.49	64.94	1.45	-11.60
UNDER T					
C-C-C	NO TILL	.48	126.96	6.46	50.43
C-C-SB	NO TILL	.97	120.25	5.98	43.72
C-SB	NO TILL	1.29	116.90	5.65	40.36
C-SB-SB	NO TILL	2.26	113.54	4.68	37.01
C-C-C-M-M-M	NO TILL	.42	107.31	6.52	30.77
SB-SB-SB	NO TILL	3.23	106.83	3.71	30.30
C-C-M-M-M	NO TILL	.37	103.37	6.57	26.84
C-SB-SB	CHISEL DISC	4.20	99.03	2.75	22.50
C-SB	CHISEL DISC	3.55	98.81	3.39	22.28
C-C-SB	CHISEL DISC	2.75	98.59	4.20	22.06
C-C-C	CHISEL DISC	1.94	98.15	5.01	21.62
C-SB-C-SB-WX	NO TILL	1.13	97.23	5.81	20.69
-C-SB-W-M-M	NO TILL	.48	94.75	6.46	18.22
·C-C-M-M-M	CHISEL DISC	1.13	92.90	5.81	16.37
·C-M-M-M	CHISEL DISC	.97	91.85	5.98	15.32
·SB-WX	NO TILL	.65	84.12	6.30	7.58
-C-SB-W-M-M	CHISEL DISC	1.78	83.92	5.17	7.39
C-SB-C-SB-WX	CHISEL DISC	2.26	82.76	4.68	6.23
C-C-M-M-M	FALL PLOW	1.62	81.84	5.33	5.30
C-C-M-M-M	SPRING PLOW	1.29	81.84	5.65	5.30
C-C-C-M-M-M	FALL PLOW	2.42	80.38	4.52	3.85
C-C-C-M-M-M	SPRING PLOW	2.10	80.38	4.85	3.85
C-C-SB-W-M-M	FALL PLOW	2.75	72.33	4.20	- 4.21
C-C-SB-W-M-M	SPRING PLOW	2.26	72.33	4.68	- 4.21
C-SB-WX	CHISEL DISC	2.75	72.06	4.20	- 4.48
C-SB-C-SB-WX	SPRING PLOW	4.85	64.94	2.10	-11.60
C-SB-WX	FALL PLOW	4.36	57.21	2.58	-19.33
C-SB-WX	SPRING PLOW	3.71	57.21	3.23	-19.33

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = CROSBY SILT LOAM SLOPE = A 0 to 2 Soil Symbol CvA
R = 150 K = .43 L = 193 S = 1.2 T = 3.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
SB-SB-SB	CHISEL DISC	3.79	94.17	1.00	6.92
C-C-C	FALL PLOW	4.46	89.24	.33	1.99
C-C-C	SPRING PLOW	4.02	89.24	.78	1.99
C-C-SB	FALL PLOW	4.69	87.91	.11	.66
C-C-SB	SPRING PLOW	4.13	87.91	.67	.66
*C-SB	FALL PLOW	4.80	87.25	0.00	0.00
C-SB	SPRING PLOW	4.24	87.25	.56	0.00
C-SB-SB	FALL PLOW	4.91	86.59	-.11	- .66
C-SB-SB	SPRING PLOW	4.35	86.59	.45	- .66
SB-SB-SB	FALL PLOW	5.02	85.26	-.22	- 1.99
SB-SB-SB	SPRING PLOW	4.57	85.26	.22	- 1.99
C-SB-C-SB-WX	FALL PLOW	3.79	71.30	1.00	-15.95
C-SB-C-SB-WX	SPRING PLOW	3.35	71.30	1.45	-15.95
C-SB-WX	FALL PLOW	3.01	60.66	1.79	-26.59
UNDER T					
C-C-C	NO TILL	.33	110.84	4.46	23.59
C-C-SB	NO TILL	.67	107.73	4.13	20.48
C-SB	NO TILL	.89	106.18	3.91	18.93
C-SB-SB	NO TILL	1.56	104.63	3.24	17.38
SB-SB-SB	NO TILL	2.23	101.52	2.57	14.27
C-C-C-M-M-M	NO TILL	.29	99.25	4.51	12.00
C-C-C	CHISEL DISC	1.34	98.15	3.46	10.90
C-C-M-M-M	NO TILL	.26	96.93	4.54	9.68
C-C-SB	CHISEL DISC	1.90	96.82	2.90	9.57
C-SB	CHISEL DISC	2.45	96.16	2.34	8.91
C-SB-SB	CHISEL DISC	2.90	95.50	1.90	8.25
C-C-C-M-M-M	CHISEL DISC	.78	92.90	4.02	5.65
C-C-M-M-M	CHISEL DISC	.67	91.85	4.13	4.60
C-C-C-M-M-M	FALL PLOW	1.67	88.45	3.12	1.19
C-C-C-M-M-M	SPRING PLOW	1.45	88.45	3.35	1.19
C-C-M-M-M	FALL PLOW	1.12	88.29	3.68	1.04
C-C-M-M-M	SPRING PLOW	.89	88.29	3.91	1.04
C-C-SB-W-M-M	NO TILL	.33	86.65	4.46	- .60
C-SB-C-SB-WX	NO TILL	.78	86.44	4.02	- .81
C-C-SB-W-M-M	CHISEL DISC	1.23	81.20	3.57	- 6.05
C-SB-C-SB-WX	CHISEL DISC	1.56	78.43	3.24	- 8.82
C-C-SB-W-M-M	FALL PLOW	1.90	76.74	2.90	-10.51
C-C-SB-W-M-M	SPRING PLOW	1.56	76.74	3.24	-10.51
C-SB-WX	NO TILL	.45	73.28	4.35	-13.97
C-SB-WX	CHISEL DISC	1.90	66.60	2.90	-20.65
C-SB-WX	SPRING PLOW	2.57	60.66	2.23	-26.59

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = CROSBY SILT LOAM SLOPE = B 2 to 6 Soil Symbol CvB
R = 150 K = .43 L = 211 S = 2.8 T = 3.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
-SB-SB	NO TILL	3.03	99.14	6.28	17.48
B-SB-SB	NO TILL	4.33	96.22	4.98	14.56
-C-SB	CHISEL DISC	3.68	91.15	5.63	9.48
-SB	CHISEL DISC	4.77	90.57	4.55	8.91
-SB-SB	CHISEL DISC	5.63	90.00	3.68	8.34
B-SB-SB	CHISEL DISC	7.37	88.86	1.95	7.20
-C-C-M-M-M	FALL PLOW	3.25	85.51	6.07	3.85
-C-C	FALL PLOW	8.67	83.38	.65	1.71
-C-C	SPRING PLOW	7.80	83.38	1.52	1.71
-C-SB	FALL PLOW	9.10	82.24	.22	.57
-C-SB	SPRING PLOW	8.02	82.24	1.30	.57
C-SB	FALL PLOW	9.32	81.66	0.00	0.00
-SB	SPRING PLOW	8.24	81.66	1.08	0.00
-SB-SB	FALL PLOW	9.54	81.09	-.22	- .57
-SB-SB	SPRING PLOW	8.45	81.09	.87	- .57
B-SB-SB	FALL PLOW	9.75	79.95	-.43	- 1.71
B-SB-SB	SPRING PLOW	8.89	79.95	.43	- 1.71
-C-SB-W-M-M	FALL PLOW	3.68	73.16	5.63	- 8.50
-C-SB-W-M-M	SPRING PLOW	3.03	73.16	6.28	- 8.50
-SB-C-SB-WX	CHISEL DISC	3.03	73.07	6.28	- 8.59
-SB-C-SB-WX	FALL PLOW	7.37	65.94	1.95	-15.72
-SB-C-SB-WX	SPRING PLOW	6.50	65.94	2.82	-15.72
-SB-WX	CHISEL DISC	3.68	61.40	5.63	-20.26
-SB-WX	FALL PLOW	5.85	55.46	3.47	-26.20
-SB-WX	SPRING PLOW	4.98	55.46	4.33	-26.20
UNDER T					
-C-C	NO TILL	.65	104.98	8.67	23.32
-C-SB	NO TILL	1.30	102.06	8.02	20.40
-SB	NO TILL	1.73	100.60	7.59	18.94
-C-C-M-M-M	NO TILL	.56	96.32	8.76	14.65
-C-M-M-M	NO TILL	.50	94.58	8.82	12.92
-C-C	CHISEL DISC	2.60	92.29	6.72	10.63
-C-C-M-M-M	CHISEL DISC	1.52	89.97	7.80	8.30
-C-M-M-M	CHISEL DISC	1.30	89.51	8.02	7.84
-C-M-M-M	FALL PLOW	2.17	85.94	7.15	4.28
-C-M-M-M	SPRING PLOW	1.73	85.94	7.59	4.28
-C-C-M-M-M	SPRING PLOW	2.82	85.51	6.50	3.85
-C-SB-W-M-M	NO TILL	.65	83.08	8.67	1.41
-SB-C-SB-WX	NO TILL	1.52	81.09	7.80	- .57
-C-SB-W-M-M	CHISEL DISC	2.38	77.62	6.94	- 4.05
-SB-WX	NO TILL	.87	68.09	8.45	-13.58

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = FOX SILT LOAM SLOPE = B 2 TO 6 Soil Symbol FnB
R = 150 K = .37 L = 194 S = 3.1 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
SB-SB-SB	NO TILL	4:43	96.22	5.09	31.31
SB-SB-SB	CHISEL DISC	7.53	88.86	1.99	23.95
C-SB-SB	CHISEL DISC	5.76	86.58	3.76	21.67
C-SB	CHISEL DISC	4.87	85.44	4.65	20.54
C-C-C	FALL PLOW	8.86	65.79	.66	.88
C-C-C	SPRING PLOW	7.97	65.79	1.55	.88
C-C-SB	FALL PLOW	9.30	65.20	.22	.29
C-C-SB	SPRING PLOW	8.19	65.20	1.33	.29
C-SB	FALL PLOW	9.52	64.91	0.00	0.00
C-SB	SPRING PLOW	8.41	64.91	1.11	0.00
C-SB-SB	FALL PLOW	9.74	64.62	-.22	- .29
C-SB-SB	SPRING PLOW	8.64	64.62	.89	- .29
SB-SB-SB	FALL PLOW	9.97	64.03	-.44	- .88
SB-SB-SB	SPRING PLOW	9.08	64.03	.44	- .88
C-SB-C-SB-WX	FALL PLOW	7.53	53.43	1.99	-11.48
C-SB-C-SB-WX	SPRING PLOW	6.64	53.43	2.88	-11.48
C-SB-WX	FALL PLOW	5.98	45.77	3.54	-19.14
C-SB-WX	SPRING PLOW	5.09	45.77	4.43	-19.14
UNDER T					
C-C-M-M-M	NO TILL	.51	104.19	9.01	39.28
C-C-C-M-M-M	NO TILL	.58	104.08	8.95	39.17
C-C-C	NO TILL	.66	103.51	8.86	38.60
C-C-SB	NO TILL	1.33	101.08	8.19	36.17
C-SB	NO TILL	1.77	99.87	7.75	34.96
C-SB-SB	NO TILL	3.10	98.65	6.42	33.74
C-C-M-M-M	CHISEL DISC	1.33	95.60	8.19	30.69
C-C-C-M-M-M	CHISEL DISC	1.55	93.34	7.97	28.43
C-C-M-M-M	FALL PLOW	2.21	89.11	7.31	24.20
C-C-M-M-M	SPRING PLOW	1.77	89.11	7.75	24.20
C-C-SB-W-M-M	NO TILL	.66	88.99	8.86	24.08
C-C-C-M-M-M	FALL PLOW	3.32	85.22	6.20	20.31
C-C-C-M-M-M	SPRING PLOW	2.88	85.22	6.64	20.31
C-C-SB	CHISEL DISC	3.76	84.31	5.76	19.40
C-C-C	CHISEL DISC	2.66	82.03	6.86	17.12
C-SB-C-SB-WX	NO TILL	1.55	81.39	7.97	16.48
C-C-SB-W-M-M	CHISEL DISC	2.44	80.60	7.09	15.70
C-C-SB-W-M-M	FALL PLOW	3.76	71.05	5.76	6.14
C-C-SB-W-M-M	SPRING PLOW	3.10	71.05	6.42	6.14
C-SB-C-SB-WX	CHISEL DISC	3.10	69.85	6.42	4.94
C-SB-WX	NO TILL	.89	69.07	8.64	4.16
C-SB-WX	CHISEL DISC	3.76	59.46	5.76	- 5.45

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = FOX SILT LOAM SLOPE = C 6 TO 12 Soil Symbol FnC2
R = 150 K = .37 L = 185 S = 9.6 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-SB	NO TILL	5.84	89.91	36.00	38.72
C-SB	NO TILL	7.78	87.51	34.05	36.32
C-C-M-M-M	CHISEL DISC	5.84	85.87	36.00	34.68
C-SB-SB	NO TILL	13.62	85.11	28.21	33.92
C-C-C-M-M-M	CHISEL DISC	6.81	84.01	35.02	32.82
SB-SB-SB	NO TILL	19.46	80.30	22.38	29.11
C-C-M-M-M	FALL PLOW	9.73	80.16	32.11	28.97
C-C-M-M-M	SPRING PLOW	7.78	80.16	34.05	28.97
C-C-C-M-M-M	FALL PLOW	14.59	76.87	27.24	25.68
C-C-C-M-M-M	SPRING PLOW	12.65	76.87	29.19	25.68
C-C-C	CHISEL DISC	11.67	74.70	30.16	23.51
C-C-SB	CHISEL DISC	16.54	74.12	25.30	22.93
C-SB	CHISEL DISC	21.40	73.83	20.43	22.64
C-SB-SB	CHISEL DISC	25.30	73.53	16.54	22.34
SB-SB-SB	CHISEL DISC	33.08	72.95	8.76	21.76
C-C-SB-W-M-M	CHISEL DISC	10.70	69.89	31.13	18.70
C-SB-C-SB-WX	NO TILL	6.81	69.29	35.02	18.10
C-C-C	FALL PLOW	38.92	60.41	2.92	9.22
C-C-C	SPRING PLOW	35.02	60.41	6.81	9.22
C-C-SB-W-M-M	FALL PLOW	16.54	59.96	25.30	8.77
C-C-SB-W-M-M	SPRING PLOW	13.62	59.96	28.21	8.77
C-SB-C-SB-WX	CHISEL DISC	13.62	58.34	28.21	7.15
C-C-SB	FALL PLOW	40.86	54.26	.97	3.07
C-C-SB	SPRING PLOW	36.00	54.26	5.84	3.07
C-SB	FALL PLOW	41.84	51.19	0.00	0.00
C-SB	SPRING PLOW	36.97	51.19	4.86	0.00
C-SB-SB	FALL PLOW	42.81	48.12	-.97	- 3.07
C-SB-SB	SPRING PLOW	37.94	48.12	3.89	- 3.07
C-SB-WX	CHISEL DISC	16.54	48.02	25.30	- 3.17
SB-SB-SB	FALL PLOW	43.78	41.97	-1.95	- 9.22
SB-SB-SB	SPRING PLOW	39.89	41.97	1.95	- 9.22
C-SB-C-SB-WX	FALL PLOW	33.08	40.24	8.76	-10.95
C-SB-C-SB-WX	SPRING PLOW	29.19	40.24	12.65	-10.95
C-SB-WX	FALL PLOW	26.27	32.93	15.57	-18.26
C-SB-WX	SPRING PLOW	22.38	32.93	19.46	-18.26
UNDER T					
C-C-C	NO TILL	2.92	94.72	38.92	43.53
C-C-C-M-M-M	NO TILL	2.53	94.02	39.31	42.83
C-C-M-M-M	NO TILL	2.24	93.88	39.60	42.69
C-C-SB-W-M-M	NO TILL	2.92	77.79	38.92	26.60
C-SB-WX	NO TILL	3.89	57.15	37.94	5.96

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = FOX GRAVELLY LOAM SLOPE = B 2 TO 6 Soil Symbol FgB
R = 150 K = .37 L = 194 S = 3.1 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
SB-SB-SB	NO TILL	4.43	85.61	5.09	33.09
SB-SB-SB	CHISEL DISC	7.53	78.25	1.99	25.73
C-SB-SB	CHISEL DISC	5.76	74.79	3.76	22.27
C-SB	CHISEL DISC	4.87	73.05	4.65	20.54
SB-SB-SB	FALL PLOW	9.97	53.42	-.44	.90
SB-SB-SB	SPRING PLOW	9.08	53.42	.44	.90
C-SB-SB	FALL PLOW	9.74	52.82	-.22	.30
C-SB-SB	SPRING PLOW	8.64	52.82	.89	.30
C-SB	FALL PLOW	9.52	52.52	0.00	0.00
C-SB	SPRING PLOW	8.41	52.52	1.11	0.00
C-C-SB	FALL PLOW	9.30	52.22	.22	- .30
C-C-SB	SPRING PLOW	8.19	52.22	1.33	- .30
C-C-C	FALL PLOW	8.86	51.62	.66	- .90
C-C-C	SPRING PLOW	7.97	51.62	1.55	- .90
C-SB-C-SB-WX	FALL PLOW	7.53	42.19	1.99	-10.33
C-SB-C-SB-WX	SPRING PLOW	6.64	42.19	2.88	-10.33
C-SB-WX	FALL PLOW	5.98	35.30	3.54	-17.22
C-SB-WX	SPRING PLOW	5.09	35.30	4.43	-17.22
UNDER T					
C-C-M-M-M	NO TILL	.51	93.95	9.01	41.43
C-C-C-M-M-M	NO TILL	.58	92.70	8.95	40.18
C-C-M-M-M	CHISEL DISC	1.33	86.53	8.19	34.01
C-C-C	NO TILL	.66	86.41	8.86	33.89
C-C-SB	NO TILL	1.33	86.14	8.19	33.62
C-SB	NO TILL	1.77	86.01	7.75	33.49
C-SB-SB	NO TILL	3.10	85.88	6.42	33.36
C-C-C-M-M-M	CHISEL DISC	1.55	83.42	7.97	30.90
C-C-M-M-M	FALL PLOW	2.21	80.04	7.31	27.52
C-C-M-M-M	SPRING PLOW	1.77	80.04	7.75	27.52
C-C-SB-W-M-M	NO TILL	.66	78.53	8.86	26.01
C-C-C-M-M-M	FALL PLOW	3.32	75.30	6.20	22.78
C-C-C-M-M-M	SPRING PLOW	2.88	75.30	6.64	22.78
C-C-SB	CHISEL DISC	3.76	71.32	5.76	18.80
C-C-SB-W-M-M	CHISEL DISC	2.44	71.12	7.09	18.60
C-SB-C-SB-WX	NO TILL	1.55	68.98	7.97	16.46
C-C-C	CHISEL DISC	2.66	67.86	6.86	15.34
C-C-SB-W-M-M	FALL PLOW	3.76	61.57	5.76	9.05
C-C-SB-W-M-M	SPRING PLOW	3.10	61.57	6.42	9.05
C-SB-C-SB-WX	CHISEL DISC	3.10	58.61	6.42	6.09
C-SB-WX	NO TILL	.89	57.62	8.64	5.10
C-SB-WX	CHISEL DISC	3.76	48.99	5.76	- 3.53

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = FOX LOAM SLOPE = B 2 TO 6 Soil Symbol F1B
R= 150 K = .37 L = 194 S = 3.1 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
SB-SB-SB	NO TILL	4.43	96.22	5.09	30.58
SB-SB-SB	CHISEL DISC	7.53	88.86	1.99	23.22
C-SB-SB	CHISEL DISC	5.76	87.07	3.76	21.43
C-SB	CHISEL DISC	4.87	86.18	4.65	20.54
C-C-C	FALL PLOW	8.86	67.26	.66	1.62
C-C-C	SPRING PLOW	7.97	67.26	1.55	1.62
C-C-SB	FALL PLOW	9.30	66.18	.22	.54
C-C-SB	SPRING PLOW	8.19	66.18	1.33	.54
C-SB	FALL PLOW	9.52	65.65	0.00	0.00
C-SB	SPRING PLOW	8.41	65.65	1.11	0.00
C-SB-SB	FALL PLOW	9.74	65.11	-.22	- .54
C-SB-SB	SPRING PLOW	8.64	65.11	.89	- .54
SB-SB-SB	FALL PLOW	9.97	64.03	-.44	- 1.62
SB-SB-SB	SPRING PLOW	9.08	64.03	.44	- 1.62
C-SB-C-SB-WX	FALL PLOW	7.53	53.13	1.99	-12.52
C-SB-C-SB-WX	SPRING PLOW	6.64	53.13	2.88	-12.52
C-SB-WX	FALL PLOW	5.98	44.78	3.54	-20.86
C-SB-WX	SPRING PLOW	5.09	44.78	4.43	-20.86
UNDER T					
C-C-C	NO TILL	.66	104.98	8.86	39.34
C-C-C-M-M-M	NO TILL	.58	104.82	8.95	39.17
C-C-M-M-M	NO TILL	.51	104.78	9.01	39.14
C-C-SB	NO TILL	1.33	102.06	8.19	36.42
C-SB	NO TILL	1.77	100.60	7.75	34.96
C-SB-SB	NO TILL	3.10	99.14	6.42	33.50
C-C-M-M-M	CHISEL DISC	1.33	96.19	8.19	30.55
C-C-C-M-M-M	CHISEL DISC	1.55	94.08	7.97	28.43
C-C-M-M-M	FALL PLOW	2.21	89.69	7.31	24.05
C-C-M-M-M	SPRING PLOW	1.77	89.69	7.75	24.05
C-C-SB-W-M-M	NO TILL	.66	88.74	8.86	23.10
C-C-C-M-M-M	FALL PLOW	3.32	85.96	6.20	20.31
C-C-C-M-M-M	SPRING PLOW	2.88	85.96	6.64	20.31
C-C-SB	CHISEL DISC	3.76	85.29	5.76	19.64
C-C-C	CHISEL DISC	2.66	83.50	6.86	17.86
C-SB-C-SB-WX	NO TILL	1.55	81.09	7.97	15.45
C-C-SB-W-M-M	CHISEL DISC	2.44	80.36	7.09	14.71
C-C-SB-W-M-M	FALL PLOW	3.76	70.81	5.76	5.16
C-C-SB-W-M-M	SPRING PLOW	3.10	70.81	6.42	5.16
C-SB-C-SB-WX	CHISEL DISC	3.10	69.56	6.42	3.91
C-SB-WX	NO TILL	.89	68.09	8.64	2.44
C-SB-WX	CHISEL DISC	3.76	58.47	5.76	- 7.17

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = FOX SANDY LOAM SLOPE = 8 2 TO 6 Soil Symbol FmB
R = 150 K = .37 L = 194 S = 3.1 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
SB-SB-SB	NO TILL	4.43	75.00	5.09	20.74
C-SB	CHISEL DISC	4.87	71.17	4.65	16.91
C-SB-SB	CHISEL DISC	5.76	69.99	3.76	15.73
SB-SB-SB	CHISEL DISC	7.53	67.64	1.99	13.38
C-C-C	FALL PLOW	8.86	60.41	.66	6.15
C-C-C	SPRING PLOW	7.97	60.41	1.55	6.15
C-C-SB	FALL PLOW	9.30	56.31	.22	2.05
C-C-SB	SPRING PLOW	8.19	56.31	1.33	2.05
C-SB	FALL PLOW	9.52	54.27	0.00	0.00
C-SB	SPRING PLOW	8.41	54.27	1.11	0.00
C-SB-SB	FALL PLOW	9.74	52.22	-.22	- 2.05
C-SB-SB	SPRING PLOW	8.64	52.22	.89	- 2.05
SB-SB-SB	FALL PLOW	9.97	48.12	-.44	- 6.15
SB-SB-SB	SPRING PLOW	9.08	48.12	.44	- 6.15
C-SB-C-SB-WX	FALL PLOW	7.53	43.14	1.99	-11.13
C-SB-C-SB-WX	SPRING PLOW	6.64	43.14	2.88	-11.13
C-SB-WX	FALL PLOW	5.98	35.72	3.54	-18.55
C-SB-WX	SPRING PLOW	5.09	35.72	4.43	-18.55
UNDER T					
C-C-C	NO TILL	.66	94.72	8.86	40.46
C-C-C-M-M-M	NO TILL	.58	94.02	8.95	39.76
C-C-M-M-M	NO TILL	.51	93.88	9.01	39.62
C-C-SB	NO TILL	1.33	88.15	8.19	33.88
C-C-M-M-M	CHISEL DISC	1.33	85.87	8.19	31.61
C-SB	NO TILL	1.77	84.86	7.75	30.60
C-C-C-M-M-M	CHISEL DISC	1.55	84.01	7.97	29.75
C-SB-SB	NO TILL	3.10	81.57	6.42	27.31
C-C-M-M-M	FALL PLOW	2.21	80.16	7.31	25.89
C-C-M-M-M	SPRING PLOW	1.77	80.16	7.75	25.89
C-C-SB-W-M-M	NO TILL	.66	77.27	8.86	23.01
C-C-C-M-M-M	FALL PLOW	3.32	76.87	6.20	22.60
C-C-C-M-M-M	SPRING PLOW	2.88	76.87	6.64	22.60
C-C-C	CHISEL DISC	2.66	74.70	6.86	20.43
C-C-SB	CHISEL DISC	3.76	72.35	5.76	18.08
C-C-SB-W-M-M	CHISEL DISC	2.44	69.37	7.09	15.11
C-SB-C-SB-WX	NO TILL	1.55	67.61	7.97	13.35
C-C-SB-W-M-M	FALL PLOW	3.76	61.36	5.76	7.09
C-C-SB-W-M-M	SPRING PLOW	3.10	61.36	6.42	7.09
C-SB-C-SB-WX	CHISEL DISC	3.10	56.66	6.42	2.40
C-SB-WX	NO TILL	.89	56.12	8.64	1.85
C-SB-WX	CHISEL DISC	3.76	46.99	5.76	- 7.28

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = HICKORY SILT LOAM SLOPE = C 6 TO 12 Soil Symbol HkC2
R = 150 K = .37 L = 110 S = 10.0 T = 5.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-C	CHISEL DISC	9.56	72.25	24.71	41.72
C-SB	NO TILL	6.38	68.13	27.89	37.60
C-C-SB	CHISEL DISC	13.55	61.02	20.72	30.49
C-SB-SB	NO TILL	11.16	60.73	23.11	30.20
C-C-C	FALL PLOW	31.88	56.01	2.39	25.48
C-C-C	SPRING PLOW	28.69	56.01	5.58	25.48
C-SB	CHISEL DISC	17.53	55.41	16.74	24.88
C-C-C-M-M-M	CHISEL DISC	5.58	51.62	28.69	21.09
C-SB-C-SB-WX	NO TILL	5.58	50.68	28.69	20.15
C-SB-SB	CHISEL DISC	20.72	49.80	13.55	19.27
SB-SB-SB	NO TILL	15.94	45.93	18.33	15.40
C-C-SB	SPRING PLOW	29.49	45.18	4.78	14.65
C-C-C-M-M-M	FALL PLOW	11.95	43.50	22.32	12.97
C-C-C-M-M-M	SPRING PLOW	10.36	43.50	23.91	12.97
C-C-M-M-M	FALL PLOW	7.97	41.00	26.30	10.47
C-C-M-M-M	SPRING PLOW	6.38	41.00	27.89	10.47
C-SB-C-SB-WX	CHISEL DISC	11.16	40.51	23.11	9.98
C-C-SB-W-M-M	CHISEL DISC	8.77	39.98	25.50	9.45
C-SB	SPRING PLOW	30.29	39.76	3.98	9.23
C-C-SB	FALL PLOW	33.47	39.02	.80	8.49
SB-SB-SB	CHISEL DISC	27.10	38.57	7.17	8.04
C-SB-SB	SPRING PLOW	31.08	34.34	3.19	3.81
C-C-SB-W-M-M	SPRING PLOW	11.16	32.06	23.11	1.53
C-SB-WX	CHISEL DISC	13.55	30.58	20.72	.05
C-SB	FALL PLOW	34.27	30.53	0.00	0.00
C-C-SB-W-M-M	FALL PLOW	13.55	28.98	20.72	- 1.55
C-SB-C-SB-WX	SPRING PLOW	23.91	27.99	10.36	- 2.54
SB-SB-SB	SPRING PLOW	32.68	23.51	1.59	- 7.02
C-SB-SB	FALL PLOW	35.07	22.04	- .80	- 8.49
C-SB-C-SB-WX	FALL PLOW	27.10	20.61	7.17	- 9.92
C-SB-WX	SPRING PLOW	18.33	20.15	15.94	-10.38
C-SB-WX	FALL PLOW	21.52	13.99	12.75	-16.54
SB-SB-SB	FALL PLOW	35.86	5.05	-1.59	-25.48
UNDER T					
	NO TILL	2.39	90.32	31.88	59.79
	NO TILL	4.78	75.52	29.49	44.99
M	NO TILL	2.07	60.66	32.20	30.13
	NO TILL	1.83	54.72	32.44	24.19
	CHISEL DISC	4.78	47.49	29.49	16.96
M	NO TILL	2.39	47.23	31.88	16.70
	NO TILL	3.19	39.06	31.08	8.53

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = HICKORY SILT LOAM SLOPE = D 12 TO 18 Soil Symbol HkD2
R = 150 K = .37 L = 105 S = 15.2 T = 5.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-SB	NO TILL	8.92	59.83	55.01	41.31
C-C-C	CHISEL DISC	17.84	59.06	46.09	40.55
C-SB	NO TILL	11.89	50.20	52.04	31.69
C-C-C	FALL PLOW	59.47	44.29	4.46	25.78
C-C-C	SPRING PLOW	53.53	44.29	10.41	25.78
C-C-SB	CHISEL DISC	25.28	44.03	38.66	25.51
C-SB-SB	NO TILL	20.82	40.57	43.12	22.06
C-SB	CHISEL DISC	32.71	36.51	31.22	18.00
C-SB-C-SB-WX	NO TILL	10.41	36.34	53.53	17.83
C-C-C-M-M-M	CHISEL DISC	10.41	35.68	53.53	17.16
C-C-M-M-M	CHISEL DISC	8.92	31.00	55.01	12.48
C-SB-SB	CHISEL DISC	38.66	28.99	25.28	10.48
C-C-C-M-M-M	FALL PLOW	22.30	28.29	41.63	9.78
C-C-C-M-M-M	SPRING PLOW	19.33	28.29	44.61	9.78
C-C-SB	FALL PLOW	62.45	27.11	1.49	8.59
C-C-SB	SPRING PLOW	55.01	27.11	8.92	8.59
C-SB-WX	NO TILL	5.95	27.11	57.99	8.59
C-SB-C-SB-WX	CHISEL DISC	20.82	25.39	43.12	6.88
C-C-SB-W-M-M	CHISEL DISC	16.36	25.25	47.58	6.74
C-C-M-M-M	FALL PLOW	14.87	25.09	49.07	6.58
C-C-M-M-M	SPRING PLOW	11.89	25.09	52.04	6.58
SB-SB-SB	NO TILL	29.74	21.32	34.20	2.80
C-SB	FALL PLOW	63.93	18.52	0.00	0.00
C-SB	SPRING PLOW	56.50	18.52	7.43	0.00
C-SB-WX	CHISEL DISC	25.28	17.98	38.66	- .54
C-C-SB-W-M-M	FALL PLOW	25.28	16.79	38.66	- 1.73
C-C-SB-W-M-M	SPRING PLOW	20.82	16.79	43.12	- 1.73
SB-SB-SB	CHISEL DISC	50.55	13.96	13.38	- 4.55
C-SB-C-SB-WX	FALL PLOW	50.55	11.00	13.38	- 7.52
C-SB-C-SB-WX	SPRING PLOW	44.61	11.00	19.33	- 7.52
C-SB-SB	FALL PLOW	65.42	9.92	-1.49	- 8.59
C-SB-SB	SPRING PLOW	57.99	9.92	5.95	- 8.59
C-SB-WX	FALL PLOW	40.14	5.98	23.79	-12.53
C-SB-WX	SPRING PLOW	34.20	5.98	29.74	-12.53
SB-SB-SB	FALL PLOW	66.91	-7.26	-2.97	-25.78
SB-SB-SB	SPRING PLOW	60.96	-7.26	2.97	-25.78
UNDER T					
C-C-C	NO TILL	4.46	79.08	59.47	60.57
C-C-C-M-M-M	NO TILL	3.87	45.69	60.07	27.17
C-C-M-M-M	NO TILL	3.42	39.01	60.51	20.49
C-C-SB-W-M-M	NO TILL	4.46	33.15	59.47	14.64

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = KENDALLVILLE SILT LOAM SLOPE = B 2 TO 6 Soil Symbol KeB
R = 150 K = .37 L = 150 S = 4.0 T = 3.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-SB-SB	NO TILL	3.65	99.02	7.56	34.60
SB-SB-SB	NO TILL	5.22	90.91	6.00	26.49
C-C-C	CHISEL DISC	3.13	86.43	8.09	22.01
C-C-SB	CHISEL DISC	4.43	85.47	6.78	21.05
C-SB	CHISEL DISC	5.74	85.00	5.48	20.58
C-SB-SB	CHISEL DISC	6.78	84.52	4.43	20.10
SB-SB-SB	CHISEL DISC	8.87	83.56	2.35	19.14
C-C-C-M-M-M	FALL PLOW	3.91	79.07	7.30	14.65
C-C-C-M-M-M	SPRING PLOW	3.39	79.07	7.83	14.65
C-SB-C-SB-WX	CHISEL DISC	3.65	69.49	7.56	5.07
C-C-SB-W-M-M	FALL PLOW	4.43	66.95	6.78	2.53
C-C-SB-W-M-M	SPRING PLOW	3.65	66.95	7.56	2.53
C-C-C	FALL PLOW	10.43	64.81	.78	.39
C-C-C	SPRING PLOW	9.39	64.81	1.83	.39
C-C-SB	FALL PLOW	10.96	64.55	.26	.13
C-C-SB	SPRING PLOW	9.65	64.55	1.57	.13
C-SB	FALL PLOW	11.22	64.42	0.00	0.00
C-SB	SPRING PLOW	9.91	64.42	1.30	0.00
C-SB-SB	FALL PLOW	11.48	64.29	-.26	- .13
C-SB-SB	SPRING PLOW	10.17	64.29	1.04	- .13
SB-SB-SB	FALL PLOW	11.74	64.03	-.52	- .39
SB-SB-SB	SPRING PLOW	10.69	64.03	.52	- .39
C-SB-WX	CHISEL DISC	4.43	59.16	6.78	- 5.26
C-SB-C-SB-WX	FALL PLOW	8.87	53.03	2.35	-11.39
C-SB-C-SB-WX	SPRING PLOW	7.83	53.03	3.39	-11.39
C-SB-WX	FALL PLOW	7.04	45.44	4.17	-18.98
C-SB-WX	SPRING PLOW	6.00	45.44	5.22	-18.98
UNDER T					
C-C-C	NO TILL	.78	115.24	10.43	50.82
C-C-SB	NO TILL	1.57	107.13	9.65	42.71
C-C-C-M-M-M	NO TILL	.68	104.28	10.54	39.86
C-SB	NO TILL	2.09	103.08	9.13	38.66
C-C-M-M-M	NO TILL	.60	102.09	10.62	37.67
C-C-M-M-M	CHISEL DISC	1.57	90.56	9.65	26.14
C-C-C-M-M-M	CHISEL DISC	1.83	89.87	9.39	25.46
C-C-SB-W-M-M	NO TILL	.78	88.24	10.43	23.82
C-SB-C-SB-WX	NO TILL	1.83	83.96	9.39	19.54
C-C-M-M-M	FALL PLOW	2.61	81.92	8.61	17.50
C-C-M-M-M	SPRING PLOW	2.09	81.92	9.13	17.50
C-C-SB-W-M-M	CHISEL DISC	2.87	77.41	8.35	12.99
C-SB-WX	NO TILL	1.04	71.21	10.17	6.79

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = KENDALLVILLE SILT LOAM SLOPE = C 6 TO 12 Soil Symbol KeC2
R = 150 K = .37 L = 145 S = 8.0 T = 3.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-SB	NO TILL	3.98	86.46	24.52	39.09
C-C-C	CHISEL DISC	7.95	80.57	20.54	33.20
C-SB	NO TILL	5.30	79.41	23.19	32.03
C-C-C-M-M-M	CHISEL DISC	4.64	75.61	23.86	28.24
C-C-M-M-M	CHISEL DISC	3.98	74.62	24.52	27.24
C-SB-SB	NO TILL	9.28	72.35	19.22	24.97
C-C-SB	CHISEL DISC	11.27	70.67	17.23	23.30
C-C-M-M-M	FALL PLOW	6.63	65.97	21.87	18.59
C-C-M-M-M	SPRING PLOW	5.30	65.97	23.19	18.59
C-SB	CHISEL DISC	14.58	65.73	13.92	18.35
C-C-C-M-M-M	FALL PLOW	9.94	64.79	18.55	17.42
C-C-C-M-M-M	SPRING PLOW	8.61	64.79	19.88	17.42
C-SB-C-SB-WX	NO TILL	4.64	63.25	23.86	15.88
C-C-SB-W-M-M	CHISEL DISC	7.29	60.98	21.21	13.60
C-SB-SB	CHISEL DISC	17.23	60.78	11.27	13.40
C-C-C	FALL PLOW	26.51	58.94	1.99	11.57
C-C-C	SPRING PLOW	23.86	58.94	4.64	11.57
SB-SB-SB	NO TILL	13.25	58.23	15.24	10.86
C-SB-C-SB-WX	CHISEL DISC	9.28	52.31	19.22	4.93
C-C-SB-W-M-M	FALL PLOW	11.27	51.26	17.23	3.88
C-C-SB-W-M-M	SPRING PLOW	9.28	51.26	19.22	3.88
C-C-SB	FALL PLOW	27.83	51.23	.66	3.85
C-C-SB	SPRING PLOW	24.52	51.23	3.98	3.85
SB-SB-SB	CHISEL DISC	22.53	50.88	5.96	3.51
C-SB	FALL PLOW	28.49	47.38	0.00	0.00
C-SB	SPRING PLOW	25.18	47.38	3.31	0.00
C-SB-SB	FALL PLOW	29.16	43.52	- .66	- 3.85
C-SB-SB	SPRING PLOW	25.84	43.52	2.65	- 3.85
C-SB-WX	CHISEL DISC	11.27	43.36	17.23	- 4.01
C-SB-C-SB-WX	FALL PLOW	22.53	37.63	5.96	- 9.75
C-SB-C-SB-WX	SPRING PLOW	19.88	37.63	8.61	- 9.75
SB-SB-SB	FALL PLOW	29.82	35.81	-1.33	-11.57
SB-SB-SB	SPRING PLOW	27.17	35.81	1.33	-11.57
C-SB-WX	FALL PLOW	17.89	31.13	10.60	-16.25
C-SB-WX	SPRING PLOW	15.24	31.13	13.25	-16.25
UNDER T					
C-C-C	NO TILL	1.99	100.58	26.51	53.21
C-C-C-M-M-M	NO TILL	1.72	85.62	26.77	38.24
C-C-M-M-M	NO TILL	1.52	82.62	26.97	35.25
C-C-SB-W-M-M	NO TILL	1.99	68.87	26.51	21.50
C-SB-WX	NO TILL	2.65	52.48	25.84	5.11

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = LATHAM SILT LOAM SLOPE = D 12 TO 18 Soil Symbol LaD2
R = 150 K = .43 L = 45 S = 14.0 T = 3.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-SB	NO TILL	5.96	49.08	36.73	37.89
C-C-C	CHISEL DISC	11.91	44.41	30.77	33.22
C-SB	NO TILL	7.94	42.14	34.74	30.95
C-SB-SB	NO TILL	13.90	35.20	28.79	24.01
C-C-SB	CHISEL DISC	16.88	34.26	25.81	23.07
C-SB-C-SB-WX	NO TILL	6.95	29.90	35.74	18.71
C-C-C	FALL PLOW	39.71	29.64	2.98	18.45
C-C-C	SPRING PLOW	35.74	29.64	6.95	18.45
C-SB	CHISEL DISC	21.84	29.19	20.85	18.00
C-SB-SB	CHISEL DISC	25.81	24.11	16.88	12.92
C-SB-WX	NO TILL	3.97	21.73	38.71	10.54
SB-SB-SB	NO TILL	19.85	21.32	22.83	10.13
C-SB-C-SB-WX	CHISEL DISC	13.90	19.53	28.79	8.34
C-C-C-M-M-M	CHISEL DISC	6.95	19.00	35.74	7.81
C-C-SB	FALL PLOW	41.69	17.34	.99	6.15
C-C-SB	SPRING PLOW	36.73	17.34	5.96	6.15
C-C-SB-W-M-M	CHISEL DISC	10.92	14.13	31.76	2.94
SB-SB-SB	CHISEL DISC	33.75	13.96	8.93	2.77
C-C-M-M-M	CHISEL DISC	5.96	13.91	36.73	2.72
C-SB-WX	CHISEL DISC	16.88	13.10	25.81	1.91
C-C-C-M-M-M	FALL PLOW	14.89	11.61	27.79	.42
C-C-C-M-M-M	SPRING PLOW	12.90	11.61	29.78	.42
C-SB	FALL PLOW	42.68	11.19	0.00	0.00
C-SB	SPRING PLOW	37.72	11.19	4.96	0.00
C-C-M-M-M	FALL PLOW	9.93	8.00	32.76	- 3.19
C-C-M-M-M	SPRING PLOW	7.94	8.00	34.74	- 3.19
C-C-SB-W-M-M	FALL PLOW	16.88	5.67	25.81	- 5.52
C-C-SB-W-M-M	SPRING PLOW	13.90	5.67	28.79	- 5.52
C-SB-C-SB-WX	FALL PLOW	33.75	5.14	8.93	- 6.05
C-SB-C-SB-WX	SPRING PLOW	29.78	5.14	12.90	- 6.05
C-SB-SB	FALL PLOW	43.68	5.04	- .99	- 6.15
C-SB-SB	SPRING PLOW	38.71	5.04	3.97	- 6.15
C-SB-WX	FALL PLOW	26.80	1.10	15.88	-10.09
C-SB-WX	SPRING PLOW	22.83	1.10	19.85	-10.09
SB-SB-SB	FALL PLOW	44.67	-7.26	-1.99	-18.45
SB-SB-SB	SPRING PLOW	40.70	-7.26	1.99	-18.45
UNDER T					
C-C-C	NO TILL	2.98	62.96	39.71	51.77
C-C-C-M-M-M	NO TILL	2.58	28.27	40.10	17.08
C-C-SB-W-M-M	NO TILL	2.98	21.54	39.71	10.35
C-C-M-M-M	NO TILL	2.28	21.33	40.40	10.14

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = LOUDONVILLE SILT LOAM SLOPE = C 6 TO 12 Soil Symbol LoC
R = 150 K = .32 L = 200 S = 9.0 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-SB	NO TILL	4.78	73.57	29.46	47.44
C-C-C	CHISEL DISC	9.56	69.32	24.69	43.19
C-SB	NO TILL	6.37	66.66	27.87	40.53
C-SB-SB	NO TILL	11.15	59.75	23.09	33.62
C-C-SB	CHISEL DISC	13.54	59.07	20.70	32.94
C-SB	CHISEL DISC	17.52	53.95	16.72	27.81
C-SB-C-SB-WX	NO TILL	5.57	53.94	28.67	27.81
C-C-C-M-M-M	CHISEL DISC	5.57	50.16	28.67	24.02
C-SB-SB	CHISEL DISC	20.70	48.82	13.54	22.69
C-C-C	FALL PLOW	31.85	47.22	2.39	21.09
C-C-C	SPRING PLOW	28.67	47.22	5.57	21.09
C-C-M-M-M	CHISEL DISC	4.78	46.32	29.46	20.19
SB-SB-SB	NO TILL	15.93	45.93	18.32	19.80
C-SB-C-SB-WX	CHISEL DISC	11.15	43.77	23.09	17.63
C-C-SB-W-M-M	CHISEL DISC	8.76	42.70	25.48	16.56
C-C-SB	SPRING PLOW	29.46	39.32	4.78	13.18
C-C-C-M-M-M	FALL PLOW	11.94	39.11	22.30	12.97
C-C-C-M-M-M	SPRING PLOW	10.35	39.11	23.89	12.97
SB-SB-SB	CHISEL DISC	27.07	38.57	7.17	12.44
C-C-M-M-M	FALL PLOW	7.96	37.48	26.28	11.35
C-C-M-M-M	SPRING PLOW	6.37	37.48	27.87	11.35
C-SB-WX	CHISEL DISC	13.54	36.98	20.70	10.85
C-SB	SPRING PLOW	30.26	35.37	3.98	9.23
C-C-SB	FALL PLOW	33.45	33.16	.80	7.03
C-C-SB-W-M-M	SPRING PLOW	11.15	32.82	23.09	6.68
C-SB-SB	SPRING PLOW	31.06	31.41	3.19	5.28
C-C-SB-W-M-M	FALL PLOW	13.54	29.74	20.70	3.61
C-SB-C-SB-WX	SPRING PLOW	23.89	28.90	10.35	2.77
C-SB	FALL PLOW	34.24	26.14	0.00	0.00
C-SB-WX	SPRING PLOW	18.32	24.60	15.93	- 1.54
SB-SB-SB	SPRING PLOW	32,65	23.51	1.59	- 2.63
C-SB-C-SB-WX	FALL PLOW	27.07	21.52	7.17	- 4.62
C-SB-SB	FALL PLOW	35.04	19.11	- .80	- 7.03
C-SB-WX	FALL PLOW	21.50	18.44	12.74	- 7.69
SB-SB-SB	FALL PLOW	35.83	5.05	- 1.59	-21.09
UNDER T					
C-C-C	NO TILL	2.39	87.39	31.85	61.26
C-C-C-M-M-M	NO TILL	2.07	59.19	32.17	33.06
C-C-M-M-M	NO TILL	1.83	53.55	32.41	27.42
C-C-SB-W-M-M	NO TILL	2.39	49.95	31.85	23.81
C-SB-WX	NO TILL	3.19	45.46	31.06	19.33

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = LOUDONVILLE SILT LOAM SLOPE = D 12 TO 18 Soil Symbol LoD2
R = 150 K = .32 L = 150 S = 14.0 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-C	NO TILL	4.05	80.54	53.95	58.07
C-C-SB	NO TILL	8.09	69.00	49.91	46.53
C-SB	NO TILL	10.79	63.24	47.21	40.76
C-C-C	CHISEL DISC	16.19	61.99	41.81	39.52
C-SB-SB	NO TILL	18.88	57.47	39.12	35.00
C-C-SB	CHISEL DISC	22.93	54.18	35.07	31.71
C-SB-C-SB-WX	NO TILL	9.44	51.20	48.56	28.73
C-SB	CHISEL DISC	29.67	50.28	28.32	27.81
C-C-SB-W-M-M	NO TILL	4.05	47.66	53.95	25.19
C-C-C-M-M-M	CHISEL DISC	9.44	46.49	48.56	24.02
C-SB-SB	CHISEL DISC	35.07	46.38	22.93	23.91
SB-SB-SB	NO TILL	26.98	45.93	31.02	23.46
C-C-M-M-M	CHISEL DISC	8.09	43.39	49.91	20.92
C-SB-WX	NO TILL	5.40	43.18	52.60	20.71
C-SB-C-SB-WX	CHISEL DISC	18.88	40.84	39.12	18.37
C-C-SB-W-M-M	CHISEL DISC	14.84	40.25	43.16	17.78
C-C-C	FALL PLOW	53.95	39.89	4.05	17.42
C-C-C	SPRING PLOW	48.56	39.89	9.44	17.42
SB-SB-SB	CHISEL DISC	45.86	38.57	12.14	16.10
C-C-C-M-M-M	FALL PLOW	20.23	35.44	37.77	12.97
C-C-C-M-M-M	SPRING PLOW	17.53	35.44	40.46	12.97
C-C-M-M-M	FALL PLOW	13.49	34.55	44.51	12.08
C-C-M-M-M	SPRING PLOW	10.79	34.55	47.21	12.08
C-SB-WX	CHISEL DISC	22.93	34.54	35.07	12.07
C-C-SB	SPRING PLOW	49.91	34.43	8.09	11.96
C-SB	SPRING PLOW	51.25	31.70	6.74	9.23
C-C-SB-W-M-M	SPRING PLOW	18.88	30.38	39.12	7.90
C-SB-SB	SPRING PLOW	52.60	28.97	5.40	6.50
C-C-SB	FALL PLOW	56.65	28.28	1.35	5.81
C-C-SB-W-M-M	FALL PLOW	22.93	27.30	35.07	4.83
C-SB-C-SB-WX	SPRING PLOW	40.46	25.97	17.53	3.50
SB-SB-SB	SPRING PLOW	55.30	23.51	2.70	1.04
C-SB	FALL PLOW	58.00	22.47	0.00	0.00
C-SB-WX	SPRING PLOW	31.02	22.15	26.98	- .32
C-SB-C-SB-WX	FALL PLOW	45.86	18.59	12.14	- 3.88
C-SB-SB	FALL PLOW	59.35	16.66	-1.35	- 5.81
C-SB-WX	FALL PLOW	36.42	16.00	21.58	- 6.47
SB-SB-SB	FALL PLOW	60.70	5.05	-2.70	-17.42
UNDER T					
C-C-C-M-M-M	NO TILL	3.51	55.76	54.49	33.29
C-C-M-M-M	NO TILL	3.10	50.81	54.90	28.34

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = MCGARY AND FITCHVILLE SILT LOAMS SLOPE = A 0 TO 2 Soil Symbol MgA
R = 150 K = .43 L = 238 S = .8 T = 3.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-C	FALL PLOW	3.46	77.52	.26	6.75
C-C-C	SPRING PLOW	3.11	77.52	.61	6.75
C-C-SB	FALL PLOW	3.63	73.02	.09	2.25
C-C-SB	SPRING PLOW	3.20	73.02	.52	2.25
C-SB	FALL PLOW	3.72	70.78	0.00	0.00
C-SB	SPRING PLOW	3.28	70.78	.43	0.00
C-SB-SB	FALL PLOW	3.80	68.53	-.09	- 2.25
C-SB-SB	SPRING PLOW	3.37	68.53	.35	- 2.25
SB-SB-SB	FALL PLOW	3.89	64.03	-.17	- 6.75
SB-SB-SB	SPRING PLOW	3.54	64.03	.17	- 6.75
UNDER T					
SB-SB-SB	CHISEL DISC	2.94	72.95	.78	2.17
C-SB-SB	CHISEL DISC	2.25	72.72	1.47	1.94
C-SB	CHISEL DISC	1.90	72.60	1.82	1.82
C-C-SB	CHISEL DISC	1.47	72.48	2.25	1.71
C-C-C	CHISEL DISC	1.04	72.25	2.68	1.48
C-SB-C-SB-WX	CHISEL DISC	1.21	60.02	2.51	-10.76
C-SB-C-SB-WX	FALL PLOW	2.94	58.56	.78	-12.22
C-SB-C-SB-WX	SPRING PLOW	2.59	58.56	1.12	-12.22
C-C-C-M-M-M	FALL PLOW	1.30	57.09	2.42	-13.69
C-C-C-M-M-M	SPRING PLOW	1.12	57.09	2.59	-13.69
C-C-C-M-M-M	CHISEL DISC	.61	54.46	3.11	-16.32
C-C-M-M-M	FALL PLOW	.86	53.00	2.85	-17.77
C-C-M-M-M	SPRING PLOW	.69	53.00	3.03	-17.77
C-C-SB-W-M-M	FALL PLOW	1.47	52.67	2.25	-18.11
C-C-SB-W-M-M	SPRING PLOW	1.21	52.67	2.51	-18.11
C-C-SB-W-M-M	CHISEL DISC	.95	52.40	2.77	-18.38
C-SB-WX	CHISEL DISC	1.47	51.63	2.25	-19.14
C-C-M-M-M	CHISEL DISC	.52	50.90	3.20	-19.88
C-SB-WX	FALL PLOW	2.33	50.42	1.38	-20.36
C-SB-WX	SPRING PLOW	1.99	50.42	1.73	-20.36

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = MIAMI SILT LOAM SLOPE = B 2 TO 6 Soil Symbol M1B
R = 150 K = .37 L = 158 S = 3.0 T = 5.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
SB-SB-SB	CHISEL DISC	6.21	83.56	1.64	15.72
C-C-C	FALL PLOW	7.30	71.65	.55	3.81
C-C-C	SPRING PLOW	6.57	71.65	1.28	3.81
C-C-SB	FALL PLOW	7.67	69.11	.18	1.27
C-C-SB	SPRING PLOW	6.76	69.11	1.10	1.27
C-SB	FALL PLOW	7.85	67.84	0.00	0.00
C-SB	SPRING PLOW	6.94	67.84	.91	0.00
C-SB-SB	FALL PLOW	8.03	66.57	-.18	- 1.27
C-SB-SB	SPRING PLOW	7.12	66.57	.73	- 1.27
SB-SB-SB	FALL PLOW	8.22	64.03	-.37	- 3.81
SB-SB-SB	SPRING PLOW	7.49	64.03	.37	- 3.81
C-SB-C-SB-WX	FALL PLOW	6.21	57.54	1.64	-10.30
C-SB-C-SB-WX	SPRING PLOW	5.48	57.54	2.37	-10.30
UNDER T					
C-C-C	NO TILL	.55	125.49	7.30	57.65
C-C-SB	NO TILL	1.10	113.96	6.76	46.12
C-SB	NO TILL	1.46	108.20	6.39	40.36
C-SB-SB	NO TILL	2.56	102.44	5.30	34.60
C-C-C-M-M-M	NO TILL	.47	100.91	7.38	33.07
C-C-C	CHISEL DISC	2.19	96.69	5.66	28.85
C-C-M-M-M	NO TILL	.42	95.99	7.43	28.15
C-C-SB	CHISEL DISC	3.10	92.31	4.75	24.47
SB-SB-SB	NO TILL	3.65	90.91	4.20	23.07
C-SB	CHISEL DISC	4.02	90.12	3.83	22.29
C-SB-C-SB-WX	NO TILL	1.28	89.83	6.57	21.99
C-SB-SB	CHISEL DISC	4.75	87.94	3.10	20.10
C-C-SB-W-M-M	NO TILL	.55	87.47	7.30	19.63
C-C-C-M-M-M	CHISEL DISC	1.28	86.50	6.57	18.67
C-C-M-M-M	CHISEL DISC	1.10	84.47	6.76	16.63
C-SB-WX	NO TILL	.73	77.58	7.12	9.74
C-C-SB-W-M-M	CHISEL DISC	2.01	76.64	5.84	8.80
C-SB-C-SB-WX	CHISEL DISC	2.56	75.37	5.30	7.53
C-C-M-M-M	FALL PLOW	1.83	74.45	6.03	6.61
C-C-M-M-M	SPRING PLOW	1.46	74.45	6.39	6.61
C-C-C-M-M-M	FALL PLOW	2.74	73.99	5.11	6.15
C-C-C-M-M-M	SPRING PLOW	2.37	73.99	5.48	6.15
C-SB-WX	CHISEL DISC	3.10	65.53	4.75	- 2.31
C-C-SB-W-M-M	FALL PLOW	3.10	65.04	4.75	- 2.80
C-C-SB-W-M-M	SPRING PLOW	2.56	65.04	5.30	- 2.80
C-SB-WX	FALL PLOW	4.93	50.68	2.92	-17.16
C-SB-WX	SPRING PLOW	4.20	50.68	3.65	-17.16

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = MIAMI SILT LOAM SLOPE = C 6 TO 12 Soil Symbol M1C
R = 150 K = .37 L = 176 S = 7.4 T = 5.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-SB	NO TILL	5.24	83.95	22.92	32.03
C-C-C	CHISEL DISC	7.86	83.50	20.30	31.58
C-SB-SB	NO TILL	9.17	77.43	18.99	25.51
C-C-SB	CHISEL DISC	11.13	74.68	17.03	22.75
C-SB	CHISEL DISC	14.41	70.27	13.75	18.34
C-SB-SB	CHISEL DISC	17.03	65.85	11.13	13.93
SB-SB-SB	NO TILL	13.10	64.39	15.06	12.47
C-C-C	FALL PLOW	26.20	61.88	1.96	9.95
C-C-C	SPRING PLOW	23.58	61.88	4.58	9.95
C-C-SB-W-M-M	CHISEL DISC	7.20	60.68	20.96	8.75
C-C-C-M-M-M	FALL PLOW	9.82	60.60	18.34	8.67
C-C-C-M-M-M	SPRING PLOW	8.51	60.60	19.65	8.67
C-C-M-M-M	FALL PLOW	6.55	60.34	21.61	8.42
C-C-M-M-M	SPRING PLOW	5.24	60.34	22.92	8.42
C-SB-C-SB-WX	CHISEL DISC	9.17	57.71	18.99	5.79
SB-SB-SB	CHISEL DISC	22.27	57.03	5.89	5.11
C-C-SB	FALL PLOW	27.51	55.24	.65	3.32
C-C-SB	SPRING PLOW	24.23	55.24	3.93	3.32
C-SB	FALL PLOW	28.16	51.93	0.00	0.00
C-SB	SPRING PLOW	24.89	51.93	3.27	0.00
C-C-SB-W-M-M	FALL PLOW	11.13	50.96	17.03	- .96
C-C-SB-W-M-M	SPRING PLOW	9.17	50.96	18.99	- .96
C-SB-WX	CHISEL DISC	11.13	49.34	17.03	- 2.59
C-SB-SB	FALL PLOW	28.82	48.61	-.65	- 3.32
C-SB-SB	SPRING PLOW	25.54	48.61	2.62	- 3.32
C-SB-C-SB-WX	FALL PLOW	22.27	43.04	5.89	- 8.89
C-SB-C-SB-WX	SPRING PLOW	19.65	43.04	8.51	- 8.89
SB-SB-SB	FALL PLOW	29.47	41.97	-1.31	- 9.95
SB-SB-SB	SPRING PLOW	26.85	41.97	1.31	- 9.95
C-SB-WX	FALL PLOW	17.68	37.11	10.48	-14.81
C-SB-WX	SPRING PLOW	15.06	37.11	13.10	-14.81
UNDER T					
C-C-C	NO TILL	1.96	103.51	26.20	51.59
C-C-SB	NO TILL	3.93	90.47	24.23	38.55
C-C-C-M-M-M	NO TILL	1.70	81.42	26.46	29.49
C-C-M-M-M	NO TILL	1.51	77.00	26.65	25.07
C-C-C-M-M-M	CHISEL DISC	4.58	71.41	23.58	19.49
C-C-M-M-M	CHISEL DISC	3.93	68.99	24.23	17.07
C-SB-C-SB-WX	NO TILL	4.58	68.66	23.58	16.73
C-C-SB-W-M-M	NO TILL	1.96	68.58	26.20	16.65
C-SB-WX	NO TILL	2.62	58.46	25.54	6.54

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = MIAMI SILT LOAM SLOPE = D 12 TO 18 Soil Symbol M1D
R = 150 K = .37 L = 98 S = 15.6 T = 5.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-SB	NO TILL	8.98	78.65	55.40	36.40
C-SB	NO TILL	11.98	73.54	52.41	31.30
C-C-C	CHISEL DISC	17.97	70.79	46.42	28.54
C-SB-SB	NO TILL	20.96	68.44	43.42	26.19
C-C-SB	CHISEL DISC	25.46	64.15	38.93	21.90
C-SB	CHISEL DISC	32.94	60.84	31.45	18.59
C-SB-C-SB-WX	NO TILL	10.48	59.45	53.91	17.20
C-C-C-M-M-M	CHISEL DISC	10.48	59.39	53.91	17.14
SB-SB-SB	NO TILL	29.95	58.23	34.44	15.98
C-SB-SB	CHISEL DISC	38.93	57.52	25.46	15.27
C-C-M-M-M	CHISEL DISC	8.98	57.11	55.40	14.86
C-C-SB-W-M-M	CHISEL DISC	16.47	50.90	47.92	8.65
SB-SB-SB	CHISEL DISC	50.91	50.88	13.48	8.63
C-SB-WX	NO TILL	5.99	50.05	58.40	7.80
C-SB-C-SB-WX	CHISEL DISC	20.96	49.28	43.42	7.03
C-C-C	FALL PLOW	59.90	48.69	4.49	6.44
C-C-C	SPRING PLOW	53.91	48.69	10.48	6.44
C-C-C-M-M-M	FALL PLOW	22.46	48.34	41.93	6.09
C-C-C-M-M-M	SPRING PLOW	19.47	48.34	44.92	6.09
C-C-M-M-M	FALL PLOW	14.97	48.27	49.41	6.02
C-C-M-M-M	SPRING PLOW	11.98	48.27	52.41	6.02
C-C-SB	FALL PLOW	62.89	44.40	1.50	2.15
C-C-SB	SPRING PLOW	55.40	44.40	8.98	2.15
C-SB	FALL PLOW	64.39	42.25	0.00	0.00
C-SB	SPRING PLOW	56.90	42.25	7.49	0.00
C-SB-WX	CHISEL DISC	25.46	41.58	38.93	- .67
C-C-SB-W-M-M	FALL PLOW	25.46	41.03	38.93	- 1.23
C-C-SB-W-M-M	SPRING PLOW	20.96	41.03	43.42	- 1.23
C-SB-SB	FALL PLOW	65.89	40.10	-1.50	- 2.15
C-SB-SB	SPRING PLOW	58.40	40.10	5.99	- 2.15
SB-SB-SB	FALL PLOW	67.38	35.81	-2.99	- 6.44
SB-SB-SB	SPRING PLOW	61.39	35.81	2.99	- 6.44
C-SB-C-SB-WX	FALL PLOW	50.91	34.41	13.48	- 7.84
C-SB-C-SB-WX	SPRING PLOW	44.92	34.41	19.47	- 7.84
C-SB-WX	FALL PLOW	40.43	29.19	23.96	-13.06
C-SB-WX	SPRING PLOW	34.44	29.19	29.95	-13.06
UNDER T					
C-C-C	NO TILL	4.49	88.86	59.90	46.61
C-C-C-M-M-M	NO TILL	3.89	68.42	60.49	26.18
C-C-M-M-M	NO TILL	3.44	64.34	60.94	22.09
C-C-SB-W-M-M	NO TILL	4.49	58.15	59.90	15.90

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = NEGLEY LOAM SLOPE = C 6 TO 12 Soil Symbol NeC2
R = 150 K = .32 L = 250 S = 8.0 T = 3.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-SB	NO TILL	4.51	81.39	27.83	46.46
C-C-C	CHISEL DISC	9.03	79.10	23.32	44.17
C-SB	NO TILL	6.02	72.53	26.33	37.60
C-C-SB	CHISEL DISC	12.79	65.59	19.56	30.66
C-C-C	FALL PLOW	30.09	64.81	2.26	29.88
C-C-C	SPRING PLOW	27.08	64.81	5.27	29.88
C-SB-SB	NO TILL	10.53	63.66	21.81	28.73
C-SB	CHISEL DISC	16.55	58.84	15.80	23.91
C-SB-C-SB-WX	NO TILL	5.27	56.86	27.08	21.93
C-SB-SB	CHISEL DISC	19.56	52.08	12.79	17.15
C-C-SB	SPRING PLOW	27.83	51.04	4.51	16.11
C-SB-WX	NO TILL	3.01	46.42	29.33	11.49
SB-SB-SB	NO TILL	15.04	45.93	17.30	11.00
C-SB-C-SB-WX	CHISEL DISC	10.53	45.91	21.81	10.98
C-C-SB	FALL PLOW	31.59	44.89	.75	9.96
C-SB	SPRING PLOW	28.58	44.16	3.76	9.23
SB-SB-SB	CHISEL DISC	25.57	38.57	6.77	3.64
C-SB-WX	CHISEL DISC	12.79	37.29	19.56	2.36
C-SB-SB	SPRING PLOW	29.33	37.28	3.01	2.35
C-C-C-M-M-M	CHISEL DISC	5.27	36.34	27.08	1.41
C-SB	FALL PLOW	32.34	34.93	0.00	0.00
C-SB-C-SB-WX	SPRING PLOW	22.56	34.17	9.78	-.76
C-C-SB-W-M-M	CHISEL DISC	8.27	32.01	24.07	- 2.92
C-C-C-M-M-M	FALL PLOW	11.28	29.20	21.06	- 5.73
C-C-C-M-M-M	SPRING PLOW	9.78	29.20	22.56	- 5.73
C-C-M-M-M	CHISEL DISC	4.51	27.79	27.83	- 7.14
C-SB-WX	SPRING PLOW	17.30	27.51	15.04	- 7.42
C-SB-C-SB-WX	FALL PLOW	25.57	26.78	6.77	- 8.15
C-SB-SB	FALL PLOW	33.10	24.97	-.75	- 9.96
C-C-SB-W-M-M	SPRING PLOW	10.53	24.74	21.81	-10.20
SB-SB-SB	SPRING PLOW	30.84	23.51	1.50	-11.42
C-C-M-M-M	FALL PLOW	7.52	22.07	24.82	-12.86
C-C-M-M-M	SPRING PLOW	6.02	22.07	26.33	-12.86
C-C-SB-W-M-M	FALL PLOW	12.79	21.66	19.56	-13.27
C-SB-WX	FALL PLOW	20.31	21.35	12.03	-13.58
SB-SB-SB	FALL PLOW	33.85	5.05	-1.50	-29.88
UNDER T					
C-C-C	NO TILL	2.26	99.12	30.09	64.19
C-C-C-M-M-M	NO TILL	1.96	46.35	30.39	11.42
C-C-SB-W-M-M	NO TILL	2.26	39.91	30.09	4.98
C-C-M-M-M	NO TILL	1.73	35.80	30.61	.87

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = NEGLEY LOAM SLOPE = D 12 TO 18 Soil Symbol NfD2
R = 150 K = .32 L = 100 S = 14.0 T = 3.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-C	NO TILL	3.30	87.87	44.04	59.54
C-C-SB	NO TILL	6.61	73.89	40.74	45.56
C-C-C	CHISEL DISC	13.21	67.86	34.13	39.53
C-SB	NO TILL	8.81	66.90	38.54	38.57
C-SB-SB	NO TILL	15.42	59.91	31.93	31.58
C-C-SB	CHISEL DISC	18.72	58.10	28.63	29.76
C-SB	CHISEL DISC	24.22	53.22	23.12	24.88
C-SB-C-SB-WX	NO TILL	7.71	51.92	39.64	23.58
C-C-C	FALL PLOW	44.04	51.62	3.30	23.29
C-C-C	SPRING PLOW	39.64	51.62	7.71	23.29
C-SB-SB	CHISEL DISC	28.63	48.33	18.72	20.00
SB-SB-SB	NO TILL	22.02	45.93	25.33	17.60
C-C-SB	SPRING PLOW	40.74	42.25	6.61	13.92
C-SB-WX	NO TILL	4.40	41.93	42.94	13.60
C-SB-C-SB-WX	CHISEL DISC	15.42	40.97	31.93	12.64
SB-SB-SB	CHISEL DISC	37.44	38.57	9.91	10.24
C-SB	SPRING PLOW	41.84	37.57	5.51	9.23
C-C-SB	FALL PLOW	46.25	36.10	1.10	7.76
C-SB-SB	SPRING PLOW	42.94	32.88	4.40	4.55
C-SB-WX	CHISEL DISC	18.72	32.81	28.63	4.47
C-C-SB-W-M-M	NO TILL	3.30	31.63	44.04	3.30
C-SB-C-SB-WX	SPRING PLOW	33.03	28.45	14.31	.12
C-SB	FALL PLOW	47.35	28.34	0.00	0.00
C-C-C-M-M-M	CHISEL DISC	7.71	24.49	39.64	- 3.85
C-C-SB-W-M-M	CHISEL DISC	12.11	23.74	35.24	- 4.60
SB-SB-SB	SPRING PLOW	45.15	23.51	2.20	- 4.82
C-SB-WX	SPRING PLOW	25.33	22.37	22.02	- 5.96
C-SB-C-SB-WX	FALL PLOW	37.44	21.07	9.91	- 7.27
C-SB-SB	FALL PLOW	48.45	20.57	-1.10	- 7.76
C-C-C-M-M-M	FALL PLOW	16.52	16.37	30.83	-11.97
C-C-C-M-M-M	SPRING PLOW	14.31	16.37	33.03	-11.97
C-SB-WX	FALL PLOW	29.73	16.22	17.62	-12.12
C-C-SB-W-M-M	SPRING PLOW	15.42	15.81	31.93	-12.52
C-C-M-M-M	CHISEL DISC	6.61	15.81	40.74	-12.53
C-C-SB-W-M-M	FALL PLOW	18.72	12.74	28.63	-15.60
C-C-M-M-M	FALL PLOW	11.01	9.31	36.34	-19.02
C-C-M-M-M	SPRING PLOW	8.81	9.31	38.54	-19.02
SB-SB-SB	FALL PLOW	49.55	5.05	-2.20	-23.29
UNDER T					
C-C-C-M-M-M	NO TILL	2.86	34.49	44.49	6.15
C-C-M-M-M	NO TILL	2.53	23.81	44.82	- 4.52

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = PARKE SILT LOAM SLOPE = C 6 TO 12 Soil Symbol PaC2
R = 150 K = .37 L = 200 S = 9.0 T = 5.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-SB	NO TILL	5.52	102.06	34.07	33.76
C-SB	NO TILL	7.37	100.60	32.23	32.30
C-SB-SB	NO TILL	12.89	99.14	26.70	30.84
SB-SB-SB	NO TILL	18.41	96.22	21.18	27.92
SB-SB-SB	CHISEL DISC	31.31	88.86	8.29	20.56
C-SB-SB	CHISEL DISC	23.94	87.07	15.65	18.77
C-SB	CHISEL DISC	20.26	86.18	19.34	17.88
C-C-SB	CHISEL DISC	15.65	85.29	23.94	16.99
C-SB-C-SB-WX	NO TILL	6.45	83.75	33.15	15.45
C-C-C	CHISEL DISC	11.05	83.50	28.54	15.20
C-C-C-M-M-M	CHISEL DISC	6.45	79.91	33.15	11.61
C-C-M-M-M	CHISEL DISC	5.52	79.19	34.07	10.89
C-C-SB-W-M-M	CHISEL DISC	10.13	73.13	29.46	4.83
C-C-M-M-M	FALL PLOW	9.21	72.70	30.38	4.40
C-C-M-M-M	SPRING PLOW	7.37	72.70	32.23	4.40
C-SB-C-SB-WX	CHISEL DISC	12.89	72.21	26.70	3.91
C-C-C-M-M-M	FALL PLOW	13.81	71.79	25.78	3.49
C-C-C-M-M-M	SPRING PLOW	11.97	71.79	27.62	3.49
SB-SB-SB	FALL PLOW	41.43	69.34	-1.84	1.04
SB-SB-SB	SPRING PLOW	37.75	69.34	1.84	1.04
C-SB-SB	FALL PLOW	40.51	68.65	- .92	.35
C-SB-SB	SPRING PLOW	35.91	68.65	3.68	.35
C-SB	FALL PLOW	39.59	68.30	0.00	0.00
C-SB	SPRING PLOW	34.99	68.30	4.60	0.00
C-C-SB	FALL PLOW	38.67	67.95	.92	- .35
C-C-SB	SPRING PLOW	34.07	67.95	5.52	- .35
C-C-C	FALL PLOW	36.83	67.26	2.76	- 1.04
C-C-C	SPRING PLOW	33.15	67.26	6.45	- 1.04
C-C-SB-W-M-M	FALL PLOW	15.65	64.46	23.94	- 3.84
C-C-SB-W-M-M	SPRING PLOW	12.89	64.46	26.70	- 3.84
C-SB-WX	CHISEL DISC	15.65	62.90	23.94	- 5.40
C-SB-C-SB-WX	FALL PLOW	31.31	57.91	8.29	-10.39
C-SB-C-SB-WX	SPRING PLOW	27.62	57.91	11.97	-10.39
C-SB-WX	FALL PLOW	24.86	50.98	14.73	-17.32
C-SB-WX	SPRING PLOW	21.18	50.98	18.41	-17.32
UNDER T					
C-C-C	NO TILL	2.76	104.98	36.83	36.68
C-C-C-M-M-M	NO TILL	2.39	90.65	37.20	22.35
C-C-M-M-M	NO TILL	2.12	87.78	37.47	19.48
C-C-SB-W-M-M	NO TILL	2.76	81.51	36.83	13.22
C-SB-WX	NO TILL	3.68	72.52	35.91	4.22

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = RAINSBORO SILT LOAM SLOPE = B 2 TO 6 Soil Symbol RaB
R = 150 K = .43 L = 200 S = 4.0 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-SB-SB	NO TILL	4.77	105.60	9.88	32.91
SB-SB-SB	NO TILL	6.81	101.52	7.83	28.83
SB-SB-SB	CHISEL DISC	11.58	94.17	3.07	21.48
C-SB-SB	CHISEL DISC	8.85	94.03	5.79	21.34
C-SB	CHISEL DISC	7.49	93.96	7.15	21.27
C-C-SB	CHISEL DISC	5.79	93.89	8.85	21.20
C-C-C	CHISEL DISC	4.09	93.75	10.56	21.06
C-SB-C-SB-WX	CHISEL DISC	4.77	77.55	9.88	4.86
C-C-C-M-M-M	FALL PLOW	5.11	76.18	9.54	3.49
C-C-C-M-M-M	SPRING PLOW	4.43	76.18	10.22	3.49
C-C-C	FALL PLOW	13.62	76.05	1.02	3.35
C-C-C	SPRING PLOW	12.26	76.05	2.38	3.35
C-C-SB	FALL PLOW	14.30	73.81	.34	1.12
C-C-SB	SPRING PLOW	12.60	73.81	2.04	1.12
C-SB	FALL PLOW	14.64	72.70	0.00	0.00
C-SB	SPRING PLOW	12.94	72.70	1.70	0.00
C-SB-SB	FALL PLOW	14.98	71.58	-.34	- 1.12
C-SB-SB	SPRING PLOW	13.28	71.58	1.36	- 1.12
SB-SB-SB	FALL PLOW	15.33	69.34	-.68	- 3.35
SB-SB-SB	SPRING PLOW	13.96	69.34	.68	- 3.35
C-C-SB-W-M-M	FALL PLOW	5.79	66.65	8.85	- 6.04
C-C-SB-W-M-M	SPRING PLOW	4.77	66.65	9.88	- 6.04
C-SB-WX	CHISEL DISC	5.79	66.61	8.85	- 6.08
C-SB-C-SB-WX	FALL PLOW	11.58	60.54	3.07	-12.16
C-SB-C-SB-WX	SPRING PLOW	10.22	60.54	4.43	-12.16
C-SB-WX	FALL PLOW	9.20	52.44	5.45	-20.26
C-SB-WX	SPRING PLOW	7.83	52.44	6.81	-20.26
UNDER T					
C-C-C	NO TILL	1.02	113.77	13.62	41.08
C-C-SB	NO TILL	2.04	109.69	12.60	36.99
C-SB	NO TILL	2.72	107.65	11.92	34.95
C-C-C-M-M-M	NO TILL	.89	95.05	13.76	22.35
C-C-M-M-M	NO TILL	.78	91.30	13.86	18.61
C-SB-C-SB-WX	NO TILL	2.38	88.50	12.26	15.81
C-C-C-M-M-M	CHISEL DISC	2.38	85.04	12.26	12.34
C-C-SB-W-M-M	NO TILL	1.02	84.59	13.62	11.90
C-C-M-M-M	CHISEL DISC	2.04	83.29	12.60	10.60
C-C-SB-W-M-M	CHISEL DISC	3.75	76.69	10.90	4.00
C-C-M-M-M	FALL PLOW	3.41	76.21	11.24	3.52
C-C-M-M-M	SPRING PLOW	2.72	76.21	11.92	3.52
C-SB-WX	NO TILL	1.36	75.74	13.28	3.04

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = RAINSBORO SILT LOAM SLOPE = C 6 TO 12 Soil Symbol RaC2
R = 150 K = .43 L = 200 S = 9.0 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
C-C-SB	NO TILL	6.42	98.71	39.59	36.90
C-SB	NO TILL	8.56	94.11	37.45	32.30
C-SB-SB	NO TILL	14.98	89.50	31.03	27.70
C-C-C	CHISEL DISC	12.84	86.43	33.17	24.63
C-C-SB	CHISEL DISC	18.19	81.94	27.82	20.13
SB-SB-SB	NO TILL	21.40	80.30	24.61	18.50
C-SB	CHISEL DISC	23.54	79.69	22.47	17.89
C-SB-SB	CHISEL DISC	27.82	77.44	18.19	15.64
C-SB-C-SB-WX	NO TILL	7.49	76.34	38.52	14.54
C-C-C-M-M-M	CHISEL DISC	7.49	75.71	38.52	13.91
C-C-M-M-M	CHISEL DISC	6.42	73.57	39.59	11.76
SB-SB-SB	CHISEL DISC	36.38	72.95	9.63	11.15
C-C-C	FALL PLOW	42.80	70.19	3.21	8.38
C-C-C	SPRING PLOW	38.52	70.19	7.49	8.38
C-C-C-M-M-M	FALL PLOW	16.05	67.59	29.96	5.78
C-C-C-M-M-M	SPRING PLOW	13.91	67.59	32.10	5.78
C-C-M-M-M	FALL PLOW	10.70	67.07	35.31	5.26
C-C-M-M-M	SPRING PLOW	8.56	67.07	37.45	5.26
C-C-SB-W-M-M	CHISEL DISC	11.77	65.83	34.24	4.03
C-SB-C-SB-WX	CHISEL DISC	14.98	64.81	31.03	3.00
C-C-SB	FALL PLOW	44.94	64.60	1.07	2.79
C-C-SB	SPRING PLOW	39.59	64.60	6.42	2.79
C-SB-WX	NO TILL	4.28	64.50	41.73	2.69
C-SB	FALL PLOW	46.01	61.80	0.00	0.00
C-SB	SPRING PLOW	40.66	61.80	5.35	0.00
C-SB-SB	FALL PLOW	47.08	59.01	-1.07	- 2.79
C-SB-SB	SPRING PLOW	41.73	59.01	4.28	- 2.79
C-C-SB-W-M-M	FALL PLOW	18.19	57.16	27.82	- 4.64
C-C-SB-W-M-M	SPRING PLOW	14.98	57.16	31.03	- 4.64
C-SB-WX	CHISEL DISC	18.19	54.89	27.82	- 6.92
SB-SB-SB	FALL PLOW	48.15	53.42	-2.14	- 8.38
SB-SB-SB	SPRING PLOW	43.87	53.42	2.14	- 8.38
C-SB-C-SB-WX	FALL PLOW	36.38	50.50	9.63	-11.31
C-SB-C-SB-WX	SPRING PLOW	32.10	50.50	13.91	-11.31
C-SB-WX	FALL PLOW	28.89	42.96	17.12	-18.84
C-SB-WX	SPRING PLOW	24.61	42.96	21.40	-18.84
UNDER T					
C-C-C	NO TILL	3.21	107.91	42.80	46.11
C-C-C-M-M-M	NO TILL	2.78	86.45	43.23	24.65
C-C-M-M-M	NO TILL	2.46	82.16	43.55	20.35
C-C-SB-W-M-M	NO TILL	3.21	74.22	42.80	12.41

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = ROSSMOYNE SILT LOAM SLOPE = B 2 TO 6 Soil Symbol RpB
R = 150 K = .37 L = 114 S = 3.8 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
SB-SB-SB	NO TILL	4.42	117.44	5.08	38.70
SB-SB-SB	CHISEL DISC	7.51	110.08	1.99	31.35
C-SB-SB	CHISEL DISC	5.74	105.13	3.76	26.39
C-SB	CHISEL DISC	4.86	102.65	4.64	23.92
SB-SB-SB	FALL PLOW	9.94	79.95	-.44	1.21
SB-SB-SB	SPRING PLOW	9.06	79.95	.44	1.21
C-SB-SB	FALL PLOW	9.72	79.14	-.22	.40
C-SB-SB	SPRING PLOW	8.61	79.14	.88	.40
C-SB	FALL PLOW	9.50	78.74	0.00	0.00
C-SB	SPRING PLOW	8.39	78.74	1.10	0.00
C-C-SB	FALL PLOW	9.28	78.33	.22	- .41
C-C-SB	SPRING PLOW	8.17	78.33	1.33	- .41
C-C-C	FALL PLOW	8.84	77.52	.66	- 1.21
C-C-C	SPRING PLOW	7.95	77.52	1.55	- 1.21
C-SB-C-SB-WX	FALL PLOW	7.51	64.49	1.99	-14.25
C-SB-C-SB-WX	SPRING PLOW	6.63	64.49	2.87	-14.25
C-SB-WX	FALL PLOW	5.96	54.99	3.53	-23.75
C-SB-WX	SPRING PLOW	5.08	54.99	4.42	-23.75
UNDER T					
C-SB-SB	NO TILL	3.09	116.71	6.41	37.97
C-SB	NO TILL	1.77	116.34	7.73	37.61
C-C-SB	NO TILL	1.33	115.97	8.17	37.24
C-C-C	NO TILL	.66	115.24	8.84	36.51
C-C-SB	CHISEL DISC	3.76	100.17	5.74	21.44
C-C-C	CHISEL DISC	2.65	95.22	6.85	16.49
C-SB-C-SB-WX	NO TILL	1.55	94.57	7.95	15.84
C-C-C-M-M-M	NO TILL	.57	90.12	8.92	11.38
C-C-M-M-M	NO TILL	.51	85.09	8.99	6.35
C-SB-C-SB-WX	CHISEL DISC	3.09	83.62	6.41	4.88
C-C-SB-W-M-M	NO TILL	.66	83.22	8.84	4.48
C-C-C-M-M-M	CHISEL DISC	1.55	80.11	7.95	1.37
C-SB-WX	NO TILL	.88	80.06	8.61	1.32
C-C-M-M-M	CHISEL DISC	1.33	77.08	8.17	- 1.65
C-C-SB-W-M-M	CHISEL DISC	2.43	75.32	7.07	- 3.42
C-C-C-M-M-M	FALL PLOW	3.31	71.26	6.18	- 7.48
C-C-C-M-M-M	SPRING PLOW	2.87	71.26	6.63	- 7.48
C-SB-WX	CHISEL DISC	3.76	70.93	5.74	- 7.81
C-C-M-M-M	FALL PLOW	2.21	70.00	7.29	- 8.73
C-C-M-M-M	SPRING PLOW	1.77	70.00	7.73	- 8.73
C-C-SB-W-M-M	FALL PLOW	3.76	64.40	5.74	-14.34
C-C-SB-W-M-M	SPRING PLOW	3.09	64.40	6.41	-14.34

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = ROSSMOYNE SILT LOAM SLOPE = C 6 TO 12 Soil Symbol RpC2
R = 150 K = .37 L = 89 S = 9.7 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETUR PER ACRE
OVER T					
C-C-SB	NO TILL	4.11	101.08	25.34	33.52
C-SB	NO TILL	5.48	99.87	23.97	32.30
C-SB-SB	NO TILL	9.59	98.65	19.86	31.09
SB-SB-SB	NO TILL	13.70	96.22	15.75	28.66
SB-SB-SB	CHISEL DISC	23.29	88.86	6.16	21.30
C-SB-SB	CHISEL DISC	17.81	86.58	11.64	19.02
C-SB	CHISEL DISC	15.07	85.44	14.38	17.88
C-C-SB	CHISEL DISC	11.64	84.31	17.81	16.74
C-C-C	CHISEL DISC	8.22	82.03	21.23	14.47
C-SB-C-SB-WX	NO TILL	4.79	79.62	24.66	12.05
SB-SB-SB	FALL PLOW	30.82	69.34	-1.37	1.78
SB-SB-SB	SPRING PLOW	28.08	69.34	1.37	1.78
C-SB-SB	FALL PLOW	30.13	68.16	- .68	.59
C-SB-SB	SPRING PLOW	26.71	68.16	2.74	.59
C-SB-C-SB-WX	CHISEL DISC	9.59	68.08	19.86	.52
C-SB	FALL PLOW	29.45	67.57	0.00	0.00
C-SB	SPRING PLOW	26.03	67.57	3.42	0.00
C-C-SB	FALL PLOW	28.76	66.97	.68	- .59
C-C-SB	SPRING PLOW	25.34	66.97	4.11	- .59
C-C-C	FALL PLOW	27.39	65.79	2.05	- 1.78
C-C-C	SPRING PLOW	24.66	65.79	4.79	- 1.78
C-C-C-M-M-M	CHISEL DISC	4.79	65.01	24.66	- 2.56
C-C-M-M-M	CHISEL DISC	4.11	61.61	25.34	- 5.96
C-C-SB-W-M-M	CHISEL DISC	7.53	60.24	21.92	- 7.32
C-C-C-M-M-M	FALL PLOW	10.27	56.89	19.18	-10.68
C-C-C-M-M-M	SPRING PLOW	8.90	56.89	20.55	-10.68
C-SB-WX	CHISEL DISC	11.64	56.51	17.81	-11.06
C-C-M-M-M	FALL PLOW	6.85	55.11	22.60	-12.46
C-C-M-M-M	SPRING PLOW	5.48	55.11	23.97	-12.46
C-SB-C-SB-WX	FALL PLOW	23.29	53.78	6.16	-13.79
C-SB-C-SB-WX	SPRING PLOW	20.55	53.78	8.90	-13.79
C-C-SB-W-M-M	FALL PLOW	11.64	51.57	17.81	-15.99
C-C-SB-W-M-M	SPRING PLOW	9.59	51.57	19.86	-15.99
C-SB-WX	FALL PLOW	18.49	44.59	10.96	-22.98
C-SB-WX	SPRING PLOW	15.75	44.59	13.70	-22.98
UNDER T					
C-C-C	NO TILL	2.05	103.51	27.39	35.95
C-C-C-M-M-M	NO TILL	1.78	75.75	27.67	8.19
C-C-M-M-M	NO TILL	1.58	70.20	27.87	2.63
C-C-SB-W-M-M	NO TILL	2.05	68.63	27.39	1.06
C-SB-WX	NO TILL	2.74	66.12	26.71	- 1.44

SOIL MANAGEMENT ALTERNATIVES AND COMPARATIVE NET RETURNS
Ross County, Ohio - 1982

SOIL = WARSAW LOAM SLOPE = A 0 TO 2 Soil Symbol W1
R = 150 K = .28 L = 277 S = .7 T = 4.0

CROP MANAGEMENT ALTERNATIVES				MANAGEMENT ALTERNATIVES *COMPARED WITH C-SB FALL PLOW	
ROTATION	TILLAGE	SOIL LOSS T/A/YR.	NET RETURN PER ACRE	SOIL SAVED T/A/YR.	CHANGE IN NET RETURN PER ACRE
OVER T					
UNDER T					
C-C-C	NO TILL	.17	122.56	2.20	51.51
C-C-SB	NO TILL	.33	106.71	2.04	35.65
C-C-C-M-M-M	NO TILL	.14	102.28	2.22	31.22
C-C-C	CHISEL DISC	.66	101.08	1.71	30.03
C-SB	NO TILL	.44	98.78	1.93	27.73
C-C-M-M-M	NO TILL	.13	98.22	2.24	27.16
C-C-C-M-M-M	CHISEL DISC	.39	91.54	1.98	20.48
C-SB-SB	NO TILL	.77	90.85	1.60	19.80
C-C-SB	CHISEL DISC	.94	89.93	1.43	18.88
C-C-M-M-M	CHISEL DISC	.33	89.63	2.04	18.57
C-C-SB-W-M-M	NO TILL	.17	85.73	2.20	14.67
C-SB	CHISEL DISC	1.21	84.36	1.16	13.31
C-C-C	FALL PLOW	2.20	83.38	.17	12.33
C-C-C	SPRING PLOW	1.98	83.38	.39	12.33
C-C-C-M-M-M	FALL PLOW	.83	82.69	1.54	11.63
C-C-C-M-M-M	SPRING PLOW	.72	82.69	1.65	11.63
C-C-M-M-M	FALL PLOW	.55	82.55	1.82	11.49
C-C-M-M-M	SPRING PLOW	.44	82.55	1.93	11.49
C-SB-C-SB-WX	NO TILL	.39	82.29	1.98	11.24
C-SB-SB	CHISEL DISC	1.43	78.79	.94	7.73
C-C-SB-W-M-M	CHISEL DISC	.61	77.34	1.76	6.29
C-C-SB	FALL PLOW	2.31	75.16	.06	4.11
C-C-SB	SPRING PLOW	2.04	75.16	.33	4.11
SB-SB-SB	NO TILL	1.10	75.00	1.27	3.95
C-SB-WX	NO TILL	.22	71.30	2.15	.25
C-SB	FALL PLOW	2.37	71.05	0.00	0.00
C-SB	SPRING PLOW	2.09	71.05	.28	0.00
C-SB-C-SB-WX	CHISEL DISC	.77	70.76	1.60	- .30
C-C-SB-W-M-M	FALL PLOW	.94	69.96	1.43	- 1.10
C-C-SB-W-M-M	SPRING PLOW	.77	69.96	1.60	- 1.10
SB-SB-SB	CHISEL DISC	1.87	67.64	.50	- 3.41
C-SB-SB	FALL PLOW	2.42	66.95	-.06	- 4.11
C-SB-SB	SPRING PLOW	2.15	66.95	.22	- 4.11
C-SB-WX	CHISEL DISC	.94	61.69	1.43	- 9.36
C-SB-C-SB-WX	FALL PLOW	1.87	60.11	.50	-10.94
C-SB-C-SB-WX	SPRING PLOW	1.65	60.11	.72	-10.94
SB-SB-SB	FALL PLOW	2.48	58.73	-.11	-12.33
SB-SB-SB	SPRING PLOW	2.26	58.73	.11	-12.33
C-SB-WX	FALL PLOW	1.49	52.82	.88	-18.24
C-SB-WX	SPRING PLOW	1.27	52.82	1.10	-18.24

*USGPO: 1984-761-367-5079